The Boston Medical and Surgical Journal

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Address.

ADDRESS TO THE GRADUATING CLASS, TRAINING SCHOOL FOR NURSES, PETER BENT BRIGHAM HOSPITAL.*

WINFORD H. SMITH, M.D., BALTIMORE, MD.

It is a distinct pleasure to me to have the opportunity of speaking to you this evening. A pleasure, because again I have the privilege of addressing the members of a profession which I hold in honor and respect, a pleasure which all foreigners like myself living outside of Boston feel at being asked to participate in any of the educational activities of this seat of learning and Hub of the Universe; a pleasure, because I understand that I am the first man to be allowed to come here on such a mission, a compliment which I fully appreciate, though not understanding the previous discrimination.

The pupils of this school are fortunate in that they are educated and trained in one of the most modern hospitals in America, situated in a city whose hospitals have always been leaders in upholding high standards in scientific work, nursing education and hospital administration, and this hospital is particularly fortunate in its close affiliation with a great medical school with its educational atmosphere, and in that it had its beginning under the leadership of that keen, sound and progressive administrator, Dr. Herbert B. Howard, who so long presided over another of Boston's famous hospitals, the Massachusetts General.

It is worth while to work in such an atmosphere, associated with the best traditions of the professions of medicine and nursing, though its significance and value is seldom appreciated at the time.

Since the first real school of nursing in America was established here in 1872, at the New England Hospital for Women and Children, we have travelled far. In ten years there were 22 schools with 600 graduates, and there are now approximately 1600 schools, with 50,000 pupils. But it is not merely by such growth that the importance of the nursing profession is manifest, but rather by the ever-increasing importance of the rôle which nurses are called upon to play. The early conception of the nurse was that she would be useful in furnishing proper care to the sick in hospitals and after becoming fully proficient, she would care for sick people in their homes. Today this is only one of the many and varied opportunities open to the nurse. She is needed and is filling important places in almost every phase of our civic and social life. It is concerning these opportunities, your responsibilities in the future program, and some of the serious problems to be faced, that I wish to speak briefly tonight.

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* December 3, 1920.

There are more pupils in our training schools than ever before and yet there is a shortage both of pupils and graduates. Why? The shortage of pupils is undoubtedly attributable to the fact that in the first instance the number of schools, so-called, has increased too rapidly without sufficient regulation, and in the second instance, to the attractiveness of the many and varied occupations, newly opened to young women, which do not require long and unremunerative preparation, while offering equal or better financial rewards with shorter hours and freedom from the heavy responsibility resting upon those dealing with human life when hanging in the balance.

The shortage in the number of graduates is most keenly felt by the public in the line of private nursing, and by that portion of the public which is able to pay for the private nurse whether she is needed or not. The reason for this shortage is that while the number of nurses graduating increases each year, the popular demand has increased and the previous proportion of distribution has not been maintained because an ever increasing number of nurses, soon after graduation, seek those opportunities which better satisfy their desire for real public service, to be free from the petty annoyances and exactions to which the private nurse is so often subjected. The desire for a wider sphere of usefulness, with more regular and shorter hours, and a greater measure of independence, all of which results in greater personal satisfaction in living, and the existence of new opportunities for gratifying that desire is the reason for the shortage of graduates as applied to private nursing. The shortage in other lines can easily be accounted for in the fact that those new opportunities have developed so rapidly and the demand has become so great that the supply has not kept pace. In addition to private nursing there are the opportunities as social service nurses, health department nurses engaged in tuberculosis work, and in the prevention of infant mortality, as visiting nurses, rural nurses, school nurses, industrial nurses, teachers, administrators, institutional nurses, and in the many other phases of public health work.

Possibly it is a good thing that the supply is not equal to the demand, perhaps because of it we shall the more quickly realize the necessity of differentiating between the essential and the non-essential, in the demand for nurses. For example, let us consider private nursing. I do not wish to give the impression that private nursing is no longer a worthy opportunity in nursing—far from it. It is an important field for the nurse, as important as any. What I do mean, however, is that the popular demand for trained nurses, countenanced if not encouraged by the medical profession, is out of all proportion to the need. Consider how many skilled nurses are today dancing attendance upon wealthy men and women, who are not really ill, but are "enjoying poor health," who want the nurse to wait on them, to read to them, to be agreeable companions, to brush their hair, to travel with them, as props to their self-indulgent and selfish lives. I yield to no one in my respect and admiration for a good nurse giving herself and her skill where it is needed. But when I see nurses trained to render skillful service in emergencies, capable of splendid things, becoming accustomed to the sort of private nursing which I have mentioned, I cannot help but feel sorry—yes, guilty—that we permit such a waste of professional equipment and ability. We see it every day in the private wards of our hospitals. The system is all wrong and does not make the best use of the talent which has been developed, and I hope the time will soon come, considering the need of the community at large, when nurses will not be available for such service; when the nurse herself, proud in her possession of special talents and skill, will be unwilling to serve merely as a companion, and will consider such work entirely unworthy of herself as a nurse. We have overlooked this most wasteful system and a reform is most desirable before considering the many radical and experimental methods of increasing the supply. I dwell upon this because we are face to face with a situation which calls for changes in the old order and it is essential that the pupil nurses, and particularly you, who are on the eve of realizing your ambition, shall get a proper perspective as to your opportunities and your responsibilities.

Consider the various lines which are open to you,—ask yourselves individually, "What line can I follow with greatest success, in the use of my talents for the benefit of others and with justice to myself?" It may be private nursing in its real sense, but not all are fitted for it; it may be as a visiting nurse, either in the city or the rural district, possibly as a social service nurse or as a teacher, or as an administrator. Decide as fairly as you can, but do not be content to follow the path of least resistance. Herbert Spencer has said, "To prepare us for complete living is the function which education has to perform." Your duty is to see that you use your education so that you live as completely as possible, which means with the greatest satisfaction to yourself and usefulness to others. Your satisfaction in and appreciation of all that life offers will be great in proportion to your usefulness and accomplishment in service to your fellow man.

I have said that we are face to face with a situation which requires a readjustment of present systems, a situation which has arisen because we have outgrown our original conception of nursing and are beginning to see that the training of the future should be that adapted to a large public service, that therein lies the greater field. We possess a wider knowledge and appreciation of social conditions, their relation to public health and the economic value of the prevention of disease. Public health work in its more general phases is coming more and more to the fore, and the trained nurse is an important factor throughout. The profession of nursing is here taking on fresh significance and the nurse of today who is concerning herself with that great problem, the protection of the health of the people, represents an idea still in the formative period, but destined to almost unlimited possibilities.

Not only is there a marked shortage in this field, but there is no definite system of training in preparation for this work. The situation which we face presents these questions,—how obtain an adequate number of nurses for the various lines of work, and how readjust the system of training to fit the new demands? There is much loose and unintelligent thinking going on and many seem to feel that all conditions can be satisfied by numbers alone, which is an entirely false conclusion.

These questions are of importance to you because some of you at least will have leading rôles to play in bringing about the new order, and you are all interested, or should be, in the future of your profession.

How readjust the training? Another question at once presents itself: Should not the three years' period be sufficient in which to provide the basic training for general nursing and at least the necessary grounding in public health nursing to enable a nurse, following graduation, to enter that field? Many hold that it does and this idea will probably prevail. I do not presume to say how the curriculum should be changed, but I am convinced that a change to that end is desirable. A carefully selected committee, financed by the Rockefeller Foundation, is now, and has been for over a year, working on this problem, and for the present we can hardly do better than await the report of that committee.

The immediate danger in the situation lies in the fact that there is an urgent demand for more nurses and the possibility that here and there misguided authorities may adopt such measures as the lowering of standards of admission to training schools, shortening the period of training, attempting to train a second grade of nurses without proper safeguards, or some procedure which will tend to discredit nursing as a profession in the minds of intelligent, educated young women, who are so necessary to the success of the larger program. We need not fear this except to the extent that it might complicate the situation and delay the solution. I think it may be said that the best thought is along the line of maintaining the present high standards of admission and of training, possibly of raising the standard as to what shall be required of training schools for nurses, thereby clearly defining and limiting those which are eligible, to give the broader training. But will it increase the number of nurses, and meet the needs of the situation in other ways? It would meet the situation in so far as it would supply the highly trained nurses and maintain the dignity of the profession, which is desirable; but it probably would not increase the numbers. In order to meet this demand the indications are that it will be necessary to develop a system for training another group of persons, competent to perform a limited function in the care of the sick, who would be called attendants, nurses' assistants, household nurses, or by some other appropriate designation. And there is undoubtedly a place for the woman who, while not a trained nurse, is competent to assist and to carry out the simpler procedures. We must recognize that there are many duties, many functions which are now performed by trained nurses which could be as well done by persons less highly trained, if properly supervised. This being the case, is it not logical to prepare for the training of this second group, rather than to consider other measures likely to destroy the system which we now have?

Before this is done, however, it will be necessary to establish such regulatory measures as will protect the public against fraud, against imposition by the untrained posing as a trained nurse, just as it has been necessary to legislate against the quack and self-appointed healer as a protection to the public.

There are many difficulties in the way, and one lies in the fact that our whole civic and state system is faulty in so far as relates to the care of the sick and the poor. The majority of our hospitals, particularly in the East, are supported by private endowment, either in the form of legacies or by voluntary contributions. It has become the accepted principle to establish a training school for nurses in every general hospital, and most special hospitals. This is done, not because of any interest in nursing education, but because it is the cheapest way of getting the nursing service. I am not blaming hospital boards for this, for it is common practice. That the system of nursing education, in America, is as good, if not better than in any other country, tends to show that the governing boards, when enlightened, have done the best they could, and many of them exceedingly well. The hospital is established for the care of the sick, and with limited funds, and these funds, obtained with great and increasing difficulty, it is not surprising that these hospital authorities are prone to regard the training schools as utilitarian, rather than as educational departments; and it must be expected that such boards will view with alarm any change which is likely to prevent them from operating training schools as at present, or that will increase the financial burden. Undoubtedly a very large number of hospitals in which so-called training schools are conducted should not be allowed to do so. In speaking of such schools, Dr. Hurd likens the lot of the pupils therein to the missionary in the Cannibal Islands, who, having accepted gladly an invitation to attend a feast, was much surprised, to say the least, upon his arrival to learn that he was supposed to furnish the feast. It is also equally apparent that a better basis of support should be provided for all training schools for nurses. Until states appreciate the necessity and the economic value of employing every means of conserving health of its citizens and recognize the training school for nurses as one of the means to that end, and support it, we must look to endowment by private philanthropists, for training schools should be endowed if their integrity as educational institutions is to be assured. Even so, if the utilitarian value of the school to the hospital is lessened, as will inevitably be the case if it is to be placed on a strictly educational basis, as it should be, the hospitals will have to provide funds for additional helpers in order to free the nurses from tasks which are utilitarian, rather than educational, in character. These are facts which must be faced, however, and cannot be allowed to interfere with a reform essential to the welfare of the public at large.

But what of the hospitals which are considered unsuitable for training schools, how will the sick in those hospitals be cared for? Is it not possible that in these hospitals the training of the second group, the attendants, should be and can be carried out under the supervision of graduate trained nurses? Many believe that it is, and I share this view. The average small general or special hospital could render perfectly satisfactory service with a sufficient number of graduates supplemented by a group of intelligent young women being trained in the simpler procedures of the care of the sick. This is virtually what is being done in many of the so-called schools. There are in the United States 6,440 hospitals of over 10 beds, of which about 4,900 have less than 100 beds, 817 from 100 to 200 beds, 447 from 200 to 500, and only 277 have over 500 beds. It would seem that there are ample hospital facilities for the training of both the fully trained nurse and the attendants in sufficient number to meet the demands of the hospitals, the public, and the public health program, especially if better use is made of dispensaries and out-patient departments. It must be emphasized, however, that unless this second group is definitely regulated by law as to the scope of its work and its members registered and controlled, it will not only endanger our whole nursing system, of which we are proud, and which we cannot afford to have endangered in any degree, but likewise the whole public health program, so far as nurses are concerned. We know how important the trained nurse of the present is to the physician and surgeon, and with relation to public health nursing, no less an authority than

Dr. C. E. A. Winslow, director of the Public Health Department of Yale University, says:

"All of this requires obviously enough a highly trained and specialized expert. I have no knowledge of the requisites for 'sick nursing,' but it is quite clear that in public health work the visiting nurse must be no empirically trained upper bedside servant. She must understand thoroughly the general fundamental laws of hygiene and sanitation, which means a mastery of the principles of physiology and bacteriology, and she must have a minute grasp of their special application in the field of her own work, whether it be school nursing, tuberculosis nursing or infant hygiene. She must know these things, not merely as a practitioner, but as a teacher, which means not only a knowledge of details, but a vision of their right relationship and a talent for effective presentation."

In the face of all of the evidence it seems reasonable to believe that the necessary adjustments will gradually be made in a manner that will safeguard the standards of nursing education, and the status of the nurse, and at the same time satisfy the new conditions. There are problems to be met and adjustments to be made, however, and my reason for discussing some of them at this time is in the hope of impressing you, the pupils of this school and of the graduating class in particular, that you will have a part to play in meeting the new conditions. Some of you will become leaders, and it is important that you look at the facts as they are, calmly and judicially, and avoid appearing to assume an attitude of aloofness and independence or of self-interest, which will discredit your judgment and your profession.

I have departed from the time-honored custom of eulogy and advice, but I am sure you have a proper sense of your own importance, and as to advice, you have probably had more than you can remember, and it is so easily given and so seldom followed.

I congratulate you on having completed your training to the end that you are now about to enter upon the practice of your noble profession fully equipped. I bid you welcome and godspeed.

University of Alabama.—A Department of Hygiene, with Dr. Hiram Byrd as director, has been established at the University of Alabama, in coöperation with the United States Interdepartmental Social Hygiene Board.

Original Articles.

FECAL UNITS AND INTESTINAL RATE, A BASIS FOR THE STUDY OF HEALTH AND INTESTINAL INDIGESTION.

By Francis Lowell Burnett, M.D., Boston.

HEALTH AND DISEASE.

Health is a purely relative condition of the body, and perfect health—as Lord Lister said of perfection — is unattainable, but we must constantly strive for it. We must strive for health, because the first appearance of disease is invariably insidious, with little disturbance of the economy, and no visible signs of its presence. By and by a patient becomes conscious that all is not well with him; there is a loss of that feeling of well being which accompanies a healthy state. Disagreeable sensations arise, at first vague, but later becoming more definite, and these may become so urgent that he seeks advice. Still no evident signs of disease may be perceived on the most careful examination. By and by the disease, being situated in some organ or tissue, changes the constitution of the part, so that its presence is now recognized by a physical sign, when the clinical method usually employed reveals its character. And in this case the disease has advanced so far as to have damaged the tissues, and does not permit of our attaining one of the chief aims of medicine— cure.[1] In other words, decay and degeneration of the tissues only become factors in disease when they interfere with an individual's course of living. Such changes in the body must be due to some very definite and prolonged action of an injurious agent; and it has been said and suspected that an excess or deficiency of, or improper food may lead to very definite lesions.[2]

For fifteen years I have studied the health of an individual with special reference to diet, having experimented with an excess of food up to a point when the body weighed 97 kilos (215 lbs.); having also tried a deficiency, reducing the body to 77 kilos (170 lbs.); and finally increasing the weight again to what appears to be normal—86 kilos (190 lbs.), and maintaining it there within a few kilos for several years. And experiments have also been carried on with improper food or an excess of different foods. During the course of this investigation, I noticed a peculiar feature of the feces—as shown in Figure 8—that aroused my interest, and one that I have already reported.[3] This feature of the feces evidently represents a function—or seems more likely to be the end result of the complete action—of the intestine; and the maximum of absorption to be derived from the food. And within limits, it appears to act irrespective of the number of calories of food ingested, for when more food is consumed more is excreted; but it does appear to be very sensitive to a change in the kind of food, the proportion, the preparation for digestion, and some of the habits of an individual; and a loss of this action, as shown by the condition of the feces (Figures 10) may be the first sentinel to give a warning of a disturbance of the body. The application of this observation in the practice of medicine seems more accurate in principle than the dietetic methods in use at present; for by this means the way of taking food and its proportion are made subservient to bodily action, so that if an individual's habits, such as eating too fast and too much, eating too much sweet stuff, etc., are corrected, there should be a corresponding change in the character of the feces, and an improvement in health. For if feces entirely composed of small masses express the complete action of the intestines on its contents, they should be normal, and thus afford a means to determine intestinal indigestion from a new and more critical point of view, but are more intelligently applied to the maintenance of health and the practice of preventive medicine.

FECAL UNITS AND THE ACTION OF THE COLON OF ANIMALS.

My first observation of a stool entirely composed of small masses was made at a time when the individual under study was considerably under weight, and it was formed in this way day after day; in fact, this was the only kind of a stool dejected for some time. Such a condition of the feces struck me as peculiar; but on an examination of the literature on this subject,

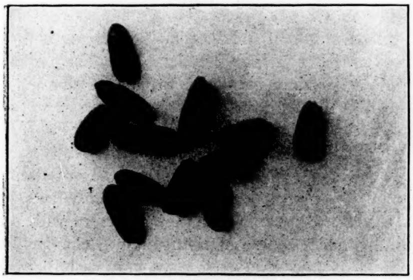

FIG. 1.

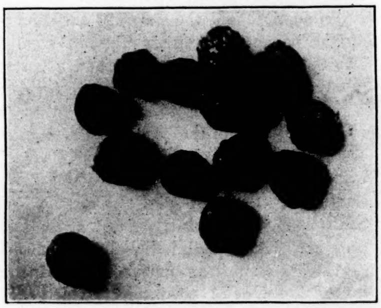

FIG. 2.

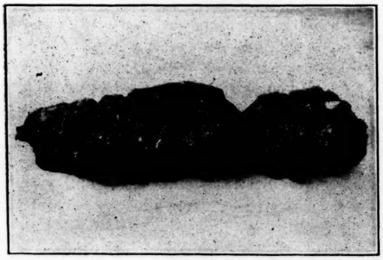

FIG. 3.

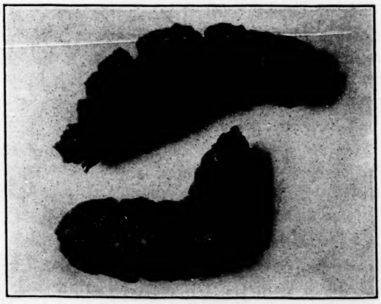

FIG. 4.

The dung of animals, entirely composed of units: Fig. 1 is that of the guinea pig; Fig. 2, the rabbit; Fig. 3, the dog; and Fig. 4. the monkey.

I found that it had been described previously, and was known as the "sheep dung[4] form," and the small masses were called sheep pellets, fecal nodules, and globules, and scyballous masses. These terms are awkward and not very descriptive; and when one considers that these masses are sometimes of a very exact size and form (Figure 1), units is a much more suitable name for them. On reflection, it occurred to me that units of dung were not only commonly dejected by sheep, but are readily seen in fresh horse droppings; and I have also observed that the dung of a monkey, the dog, the pig, the sow, the rabbit and the guinea pig is entirely composed of them, and some of these specimens are illustrated in Figures 1, 2, 3, 4. No doubt different examples may be found in the dung of other animals, but those mentioned are sufficient to show that units of dung are commonly dejected by all of these animals, and therefore this form may be regarded as normal.

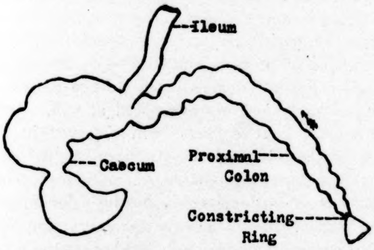

FIG. 5.—Outline of the proximal colon of a rat, in action. Note that the constricting ring forming the intermediate colon has closed, and waves of anti-peristalsis are running over the gut in the direction of the arrow. (Copy of drawing from Elliott and Barclay-Smith.)

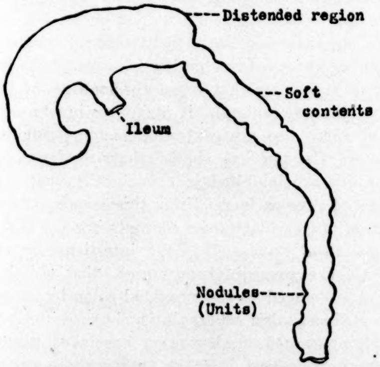

FIG. 6.—Outline of the proximal colon of a cat, in action. Note that the constricting ring is relaxed and the soft contents of the proximal colon are formed into nodules (units), which are being propelled down the distal colon by waves of peristalsis. (Copy of drawing from Elliott and Barclay-Smith.)

Such an assertion is strikingly corroborated, when the action of the large intestine of some of these animals is considered. Ordinarily, one thinks of the food as undergoing a continuous passage through the intestines; but that the movements of the intestines even in some of these animals is a very complex process has been shown by the investigations of Cannon,[5] and Elliott and Barclay-Smith.[6] They have found that the large intestine of the cat, the rabbit, the guinea pig, the rat (Figure 5) and the ferret, formed a constricting ring at times about one-third of the way along its length which made the gut into three distinct physiological parts; and each one of these parts had a distinct action. The first portion or the proximal colon is characterized by waves of antiperistalsis, the second or intermediate forms the fecal nodules or units; and the third the distal, moves the units along by waves of peristalsis alone (Figure 6). The proximal part, however, has the most complex action; for after a pultaceous mass of food passes into it, the tonic constriction ring, acting like a sphincter, closes, and successive waves of antiperistalsis pass over it to churn the food within. The action of these reversed waves makes the proximal colon a distinct physiological entity not unlike the stomach. This assertion is not only borne out by the action of these waves, but is also confirmed by the form of the ileocanal valve, by the fact that the administration of a cathartic and an enema to a cat will completely evacuate the alimentary tract except this portion, and finally by the fact that sometimes the tonic constriction ring which limits one end of this activity may at times be found well beyond a third or even half of the entire colon. Perhaps the length or capacity of the proximal colon with its waves of antiperistalsis may have some relation to the need of the body for nourishment, or there is a correlation between the size of it and the consistency of the intestinal contents. But the consistency of the contents may elicit another form of action; for instance, if the contents of the caecum of a rat are stiff and dry antiperistalsis is entirely held in abeyance, the mass is made into units or nodules in this appendage, and then passed along the entire colon by regular coördinated waves of peristalsis. Similarly, Cannon[7] has also found that the kind of food exerts some influence on the action of the stomach and intestines of animals; that is, if

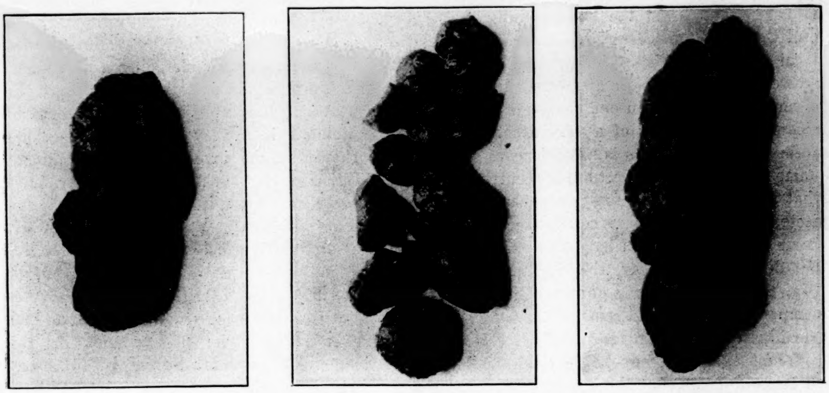

Fig. 7. Fig. 8. Fig. 9.

The feces of man, entirely composed of units. Fig. 7 is associated with an intestinal rate of about 70 hours; Fig. 8, about 60 hours; and Fig. 9, about 50 hours.

proteid, fat, and carbohydrate food of the same amount and consistency are given a cat, the proteid mass will remain in the stomach for an hour or an hour and a half, the fat about half an hour, but carbohydrates will usually be discharged into the intestine in ten minutes. And then proteid food may be seen to undergo rhythmic segmentation at almost any time, whereas fat and carbohydrate food seldom go through the process. Absorption in animals occurs largely in the small intestine; but if the consistency of the intestinal contents on entering and leaving the proximal colon is taken into consideration, some absorption must take place in this part of the gut. And then, as Cannon says, "inasmuch as the material in these segments (units) at first is soft so that they are easily compressible, while the fecal masses which are the final result, are hard and dry, it follows that even within the confines of these persistent rings, some absorption is taking place." Another point in regard to the influence of the contents of the intestine on its action, may be an observation of the English investigators on the dog. Of all the animals experimented with, this one alone showed antiperistalsis entirely in abeyance, and therefore it was impossible to give to the large gut its physiologic divisions. The stimulus used to elicit the action of the colon was a paste of pea flour and water; but as this animal is distinctly carnivorous, such a mixture may have been so incompatible with the bodily needs that it failed to bring into play the complete action of the gut, and the material was merely passed along by peristaltic waves and dejected. The formation of units is not alluded to, indeed the whole colon is described as a storage reservoir, which can be entirely evacuated at will. Antiperistalsis, however, has been observed in the dog by Cannon, and the stimulus he used contained a large proportion of animal protein.[8] The loss of antiperistalsis in the colon of the dog corroborates in a way, an observation that I have already made; and that is that the dung of the dog is not infrequently found in a soft, formless mass, without units. I have suggested that such a condition may be due to improper feeding; that is, too much food or more likely the ingestion of insufficient animal protein. Having given a brief review of some of the internal influences that affect the motility of the gut of a few animals, it is interesting to note that there are also external factors; for instance, Cannon has shown that all forms of motility are inhibited in cats, in the emotional state of rage or fear. From this account of the action of the colon on its contents in a few mammals, it is evident that the intestional movements are exceedingly complex, that suitable food is delayed in the proximal colon by waves of antiperistalsis where it is churned until a certain amount of absorption has taken place; then it is passed into the intermediate colon, formed into units, and carried by waves of peristalsis through the distal colon. And if it

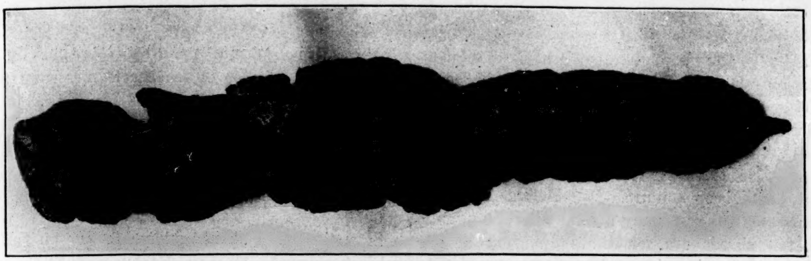

Fig. 10.—A large dejection associated with an accelerated intestinal rate, which, in part, is formed of units and in part made up of the foul and formless mass of intestinal indigestion. (The middle portion of this mass has spread apart on account of being dried and appears unnatural.)

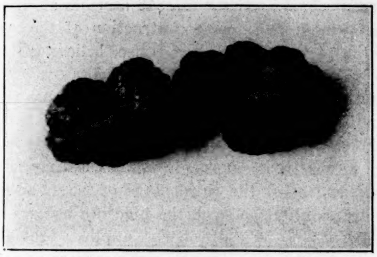

Fig. 11.—A small human dejection entirely composed of units which are undersized and represents a return of the feces to units after a foul and formless condition.

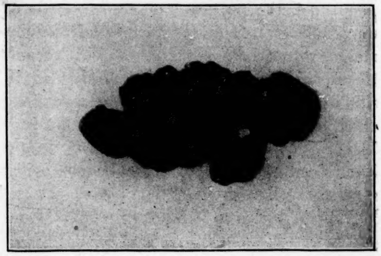

Fig. 12.—A dejection of an infant, entirely composed of units.

is not suitable—as a carbohydrate mixture in a cat—it is rapidly passed along the gut and the complete mechanism of digestion is held in abeyance. Accordingly all of these forms of intestinal movements are primarily dependent on internal conditions, as the kind of food ingested; but they are also affected by such subtle external influences as emotion.

FECAL UNITS OF MAN.

From articles previously written about the "sheep dung form" of stool, which at one time was supposed to be due to a stenosis of the gut, from odd observations I have made myself and some that have been reported to me, it is quite obvious that feces entirely composed of units may not be very uncommon. This assertion seems all the more logical when one composed of indefinite units, as shown in Figure 9, is put into this class. But a stool more like Figure 10 has been constantly observed in the dejections of the subject under study for a period of about ten years; and during this time there has never been any evidence of a stenosis of the gut, in fact this individual has experienced only an unusual degree of good health. Furthermore, several children, one an infant of eleven months, as illustrated in Figure 12, have been put on a basis by which units were generally dejected, and they seem to be in an improved state of well being. The units of a man vary somewhat in appearance from day to day. Generally, the units are definite but pressed together in a mass for dejection, as shown in Figure 8; sometimes they are like Figure 7 and fall apart on dejection; or sometimes, they may be indefinite as illustrated in Figure 9. Again, they may vary in size; some measuring 2 cms. across, while others are only 1 cm. across in this dimension. Then a stool may be composed of all kinds of units; or all of them may be small (Figure 11) and resemble those of an infant. But the form is not the only variation observed in the condition of the units. They also vary in consistency; for those that are discrete are hard and suggest a large amount of absorption, while those pressed together are softer. The units, too, are rounded and have a smooth surface, a point that is accentuated in the gloss of fresh horse droppings; but in man, the surface is indented here and there by faint and irregular lines (Figure 7).

Such marks are difficult to interpret, although they may represent the conjunction of particles in the process of haustral churning or segmentation. One of the most noteworthy characteristics of a stool entirely composed of units is the odor. It has an odor, but it is not foul and stinking; in fact, it is not any more disagreeable than the odor of fresh horse droppings or sheep manure. Considerable mucus is supposed to accompany a solid stool; but while a few shreds are sometimes apparent in one formed of units, they evidently represent only the normal desquamation of the mucous membrane. And in a microscopic examination of such a stool, the proteid particles are well digested, and free fat, fatty acids, or carbohydrates have not been seen. From this account of fecal units of man it is evident that an individual may keep on this basis for a long period of years, that the dejections of other individuals may be changed to this form by proper guidance, and that all of these human beings are unusually healthy.

(To be continued.)

ACUTE INVERSION OF THE UTERUS.*

By James L. Huntington, M.D., Boston.

It is by no means surprising that such a remarkable occurrence as the inversion of the uterus should have attracted the attention of medical authors from the earliest times. This phenomenon so fearful in its consequences, so sudden and so rare, is nearly as much a puzzle today as it was in the dark ages of medicine. For this reason it is the bounden duty of every obstetrician, promptly and fearlessly, to report with the utmost frankness and care every case that comes within his practice.

The title of this paper, "Acute Inversion of the Uterus" might better be expressed "Acute Puerperal Inversion of the Uterus," because I shall not touch at all on the condition of inversion which has been reported where a tumor has gradually caused by its weight the uterus to turn inside out, or where violent intra-obdominal pressure has brought about the same condition, for under these circumstances the condition is essentially chronic, and the feature of hemorrhage is lacking.

The question of etiology is perhaps the most interesting and in some ways the most important point to be discussed, because of the tremendously varying differences of opinion. The generally accepted idea as to the etiology of this condition is that the uterus becomes inverted solely because of the carelessness of the person in attendance—that it is due to traction on the cord, or undue pressure from above in expressing the placenta. I must frankly admit that such was my opinion before my recent experience.

Let us see what the recognized authorities, both ancient and modern, have to say on this subject. In A. D. 110, Soranus of Ephesus writes, "Inversion of the uterus may be brought about by the unskillful removal of the placenta." Churchill[1] in 1846 ascribes atony of one portion and active contraction of the rest of the uterus as the chief cause, believing that violence in extracting the placenta or even traction on the cord may occasionally cause this condition.

Harris[2] in 1880 writes, "A very general theory is, that it is caused, in many cases, by mismanagement of the third stage of labor, either by traction on the cord, the placenta being still adherent, or by improperly applied pressure in the fundus; . . . that such causes may suffice to start the inversion cannot be doubted, but it is probable that their frequency has been much exaggerated. . . . .

"In a large proportion of cases no mechanical causes can be traced and the occurrence of spontaneous inversion must be admitted."

Jellett[3] writes in 1905, "Three conditions must be associated in order to permit of this occurrence: enlargement of the cavity of the uterus; relaxation of part of its wall; and a cervix which is sufficiently dilated or capable of being sufficiently dilated to allow the passage of the body of the uterus. All these conditions are fulfilled after delivery in these cases in which the uterus does not contract well. With these conditions present, if the intrauterine pressure becomes less than the intraabdominal pressure, the fundus dimples in, and if this relation between the two pressures is continued, inversion goes on until it has become complete. Accordingly, all factors which cause such a relation between the two pressures may be regarded as the exciting causes of inversion. The more important of these are:

1. Dragging upon the placental site, in the case of a fundal insertion of the placenta, by pulling upon the cord while the placenta is still adherent.

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* Read before the Surgical Fortnightly.

2. Violent straining associated with sudden emptying of the uterus, as: precipitate labor, or severe straining and pressure in the removal of the placenta, while the uterus is in a relaxed condition."

Williams[4] writes in 1904: "For the production of the accident two factors are necessary: marked laxity of the uterine walls, particularly at the placental site, and a patulous cervical canal. Inversion may occur spontaneously as the result of intra-abdominal pressure, or from the mere weight of the intestines, while in other cases it is attributable to violence resulting from the too vigorous employment of Credé's manoeuvre or to traction upon the cord.

"Beckman, who has carefully analyzed one hundred cases reported in the literature, believes that in the majority of instances the accident occurs spontaneously, while Vogel, in a similar review, holds that most cases are due to violence. His contention appears to be confirmed by Beckman's statistics, as only three of the hundred cases occurred in hospital practice. Indeed, it is highly probable that the accident is excessively rare when labor is properly conducted, but that it occurs more frequently under the unfavorable conditions existing in private practice, particularly as conducted by midwives."

L. V. Friedman,[5] writing in 1906, says, "However, the possibility of spontaneous inversion some hours after delivery of the placenta has been well established."

H. F. Day,[6] in 1912, writes, "It is usually caused by injudicious pressure on the fundus after delivery or by traction on the cord, while the placenta is attached. A uterus is predisposed to this when its musculature has been exhausted or lacerated during a severe and prolonged labor so that the contractions stop. They may begin suddenly again and assisted by intra-abdominal pressure cause the condition. Many authors claim that it is always preceded by paresis of some portion of the uterine wall."

Craigin,[7] in 1916, writes: "The conditions necessary for the concurrence of an inversion of the uterus after labor are a relaxation of the fundus and a dilatation of the cervix. With these conditions present it may occur in one of three ways:—

1. It may be pushed down from above.
2. It may be pulled down from below.
3. It may fall down spontaneously.

The most usual cause for inversion of the uterus is the improper application of Credé's method of expression of the placenta. This should be practised only while the uterus is contracted. If the fundus is relaxed it is a relatively easy matter to indent it, and when once an indentation has occurred, it is a still easier matter to continue this indentation into an incomplete inversion of the uterus. In the cases which have occurred and been seen by the author, this has been the etiology.

"It must be admitted that with a placenta adherent to a relaxed fundus, traction on the cord which used to be practised by ignorant midwives could produce inversion. This has not been met with in my experience.

"A number of observers have reported cases of spontaneous inversion of the uterus, in which a relaxed fundus fell down within a dilated cervix under the influence of the contraction of the abdominal muscles, or the weight of an adherent placenta. This, however, must be a rare occurrence, and it is wiser to consider an inversion of the uterus as usually the result of mismanagement on the part of the obstetrician."

Griffin,[8] writing in 1917, takes up the question of etiology as follows: In most works on obstetrics external violence is given as a factor in the production of inversion. Too firm pressure from above by the vigorous use of Credé's method or a short cord, precipitate labor, and traction on the cord especially, were given as a cause in a large proportion of the cases. Emmett says that if the latter were so, inversion ought to have been much more frequent in earlier times, when the knowledge of obstetrics was considerably less than it is now; but statistics show that the relative frequency of inversion has not changed. Beckmann carefully studied one hundred cases of inversion and concluded that it occurs most frequently in primiparae, and young persons, and that violent manipulations rarely play the most important rôle in the etiology; that on the contrary, more or less constant conditions, existing in the active birth itself bring about the puerperal inversion in the majority of cases. He says that the essential and necessary conditions precedent to the origin of a puerperal inversion is the relaxation or flabbiness of the recently emptied uterine body in its upper part, and an open os. He concludes that the spontaneous origin of inversion is more frequent than any of the previous writers have supposed.

Crampton,[9] in 1885, studied two hundred and twenty-six cases, and his conclusion in regard to its occurrence and etiology are as follows:

"1. Inversion is preceded by paresis of some portion of the uterine muscle (not necessarily the placental site), caused either by too frequent child-bearing, tedious labor, previous miscarriages, traumatism, emotional excitement, or too rapid labor. Traction on the cord may induce prolapsus; if severe, procedentia. It will never alone produce inversion, but may facilitate it, if paresis is present.

2. It is more apt to occur in primiparae.

3. This liability in primiparae is due to the peculiar emotional excitement preceding and associated with a first labor, reflected upon the exhausted uterine muscles for the first time called into unusual action. Given a slight degree of depression in any portion of the uterine body, and the natural vigorous contractions of the uterus in a first labor become a source of increased danger. Adherent placenta is frequently supposed to be a cause of inversion.

Athill[10] laid it down as a rule that in cases of inversion following parturition the placenta was invariably found to be attached to the central portion of the fundus. He comes to the conclusion that fundul attachment of the placenta was not alone the predisposing, but was the only cause of inversion. During his long practice, extending over fifty years, including ten years' residence in the Rotunda Hospital, first as assistant and then as master, he introduced his hand in the uterus many times in cases of retained placenta, many of them firmly adherent, and in no single case did he find the attachment anywhere except laterally, and in none of them was there the least tendency to inversion.

Hennig[11] noted the frequent insertion of the placenta at the fundus in these cases and thought that in partially detached placenta the accumulating weight of blood might favor inversion.

Bumm,[12] in 1908, points out that to produce this condition, first of all, the placenta must be placed at the fundus and that condition alone is enough to produce the inversion, but that, of course, any undue pressure or traction on this weakened fundus would favor the process.

This last view certainly seems most reasonable, and as the placental site is always described as at the fundus in reported cases of inversion of the uterus, when any mention is made of the placental insertion, it would certainly tend to strengthen this theory. Added to these is the extreme rarity of a fundul implantation of the placenta which would correspond with the extreme rarity of inversion of the uterus.

Certainly some other etiological facts besides pressure on the fundus or pulling on the cord must exist for these abnormal features are of the commonest occurrence, and inversion of the uterus happens so very seldom; and in the first case I am going to report, there was no traction on the cord, and no pressure that could be called such by the wildest stretch of imagination. In many clinics, forcible expression of the placenta at the end of five to ten minutes is the rule, and yet we do not find inversion of the uterus any oftener in these institutions. No, there certainly must be some underlying factor, and the most logical seems to be the fundul implantation of the placenta.

The symptoms of acute inversion of the uterus are usually given as profound shock, excessive hemorrhage, severe pain of a sharp, terrifying character, and yet many authors point out that any or all of these may be lacking.

In these days of the routine use of ergot and pituitrin, it is of the utmost importance that we should bear in mind the possibility of inversion of the uterus, and all the signs and symptoms, if the ideal treatment is to be followed, namely, reposition by pressure from below; it must be instituted early and before the action of ergot and pituitrin on the uterine muscle.

Nearly all authors speak of the absence of any uterine mass to be felt through the abdominal wall as a diagnostic sign of great value. It would seem to me, after my experience, that where there is any shock or undue bleeding, unless the mass to be felt through the abdominal wall is the typical spherical mass behind which the hand can easily pass, a vaginal examination is imperative. In the case reported below, I was at a loss to explain why I could not get behind the fundus when I was attempting to hold it. The consistency was not abnormal; the nodulated character was not unusual; the mass was high enough in the abdomen not to excite suspicion, but the characteristic feature of being able to hold the top of the fundus in the hollow of the hand was lacking, and was noted at the time before the diagnosis was made.

Both cases described below are of the commonest type, when the body of the uterus passes through the cervix, leaving the cervix hugging the mass like a collar. Of course the next stage would be rarer where the cervix also inverts, pulling with it the vaginal wall.

Treatment. Where the diagnosis is made early, as it should be, the mass can be pushed back as it came down, and Dr. DeNormandie is shortly going to report a case of his, where there was complete inversion with the placenta still attached to the fundus, where the whole mass appeared outside the introitus. He was able to peal off the placenta from the fundus, and replace the body of the uterus, holding his hand inside until the uterus shut down normally, and his patient had no hemorrhage, shock or pain.

When all attempts to replace the mass fail, it would seem to me that immediate laparotomy and restoration of the uterus by traction from above, with direct transfusion offers the best possible chance for success.

Of course this cannot be accomplished without such a marvellous equipment as that which Dr. George Minot has furnished the surgeons of Boston with carefully tested and properly grouped donors always available on telephone call.

Where shock or failure to make a diagnosis has allowed days to intervene from the onset of the symptoms to the time of operation, we have two choices: first, a laparotomy with attempt to replace by traction from above and pressure from below the vagina, and if that fails, by hysterectomy; and second, the so-called Spinelli operation. In this, the vesicouterine peritoneal pouch is opened, the cervix is stretched from side to side, and an incision is then made through the cervix and uterus to within one-third of an inch of the fundus. The uterus is then easily re-inverted, and the incision closed, as in Caesarean section.

CASE 1. No. 416; aged 33; American by birth; para iii. Patient had a normal labor with her first baby; normal rapid labor with her second. The present labor was terminated by easy, low forceps. The baby weighed seven pounds, nine ounces. Fifteen minutes later, gentle pressure on the fundus revealed the placenta at the introitus. Pressure given at the sides of the fundus with extreme care and the placenta was easily delivered. There was moderate bleeding after the birth of the placenta, and ergot and pituitrin were given subcutaneously as routine. Pulse 80, and only fair quality. What appeared to be a rather nodulated fundus seemed hard and well contracted. Bleeding continued and the pulse became a little poorer in quality. Ergot was repeated after half an hour, and patient complained of no pain. Pulse remained at 80, but the patient looked pale and drawn, and at the end of three quarters of an hour, preliminary arrangements were made for a transfusion, should it be necessary. Every five to ten minutes there would be a gush of about one-half ounce of dark lochia. At the end of an hour, patient's pulse became decidedly weaker in character, and gradually began to increase in rate. Seen by Drs. Minot and Reggio one hour fifteen minutes post-partem, and immediate transfusion advised. Pulse, 120. Bleeding from the uterus seemed to be increasing, and while preparations were being made for a transfusion, I decided to pack the uterus. Upon introducing my hand into the vagina, a smooth mass was found projecting through the cervix, the cervix hugging it tightly like a collar. The entire body of the uterus seemed in the vagina. More careful examination revealed a roughened area over the fundus, evidently the placental site. Upon an attempt being made to replace the fundus by pressure from below, blood poured from the vagina. Immediate laparotomy decided upon without further attempts from below. Patient almost pulseless. Iodine preparation on the table, as transfusion was started. Low median incision. Rather thick pad of subcutaneous fat encountered. Peritoneal cavity opened, and what proved to be the lower uterine segment with appendages drawn into the crater presented at the wound. A thick bite of the uterus was seized with Ellis forceps in the median line just inside the crater. With moderate traction it was brought above the ring, and a bite seized lower down, and so bit by bit the uterus was drawn back through the ring. It appeared firm, but rather pale, but the color returned rapidly, and no attempt was made to fix the uterus. Another ampule of pituitin was given, however.

By this time the transfusion was about half over, and the patient's pulse was strong at the wrist, decreasing rapidly in rate. Abdomen closed in layers. Dry dressing. At the conclusion of the transfusion, patient's pulse was 90, and blood pressure 100. Patient made an absolutely uninterrupted convalescence, but the lochia was quite scanty. Six weeks later the uterus was found in anterior position, freely movable, normal size; cervix long and conical. Os practically intact, and much smaller than usually met with in a multipara.

CASE 2. Boston Lying-In Hospital. House No. 24152. Seen in pregnancy clinic October 17, 1917; 37 years 1 para. American. Family and past history negative. Physical examination negative. Pelvic measurements, 30-25-18½. January 11, 1918, normal primiparous labor, nine hours. Baby weighed five pounds, eleven ounces; cord twenty-two inches long. Placenta, one pound, one ounce. Placenta came away incomplete, and patient had slight post-partem hemorrhage, so cavity of uterus explored and small piece of placenta removed. Ergot and pituitin given S. C. Pulse 160; not enough hemorrhage to account for condition of shock. Given 500 c.c. of salt under each breast. Pulse 140. Patient had routine treatment for shock and condition gradually improved. Had occasional slight hemorrhage, however.

January 12—P.M., temperature, 99.5; pulse, 118; condition improved. January 13—P.M., temperature, 100.4; pulse, 130; about the same. January 14—P.M., temperature 100.4; pulse, 104; pads foul; January 15—P.M., temperature, 102.8; pulse, 140; pads foul. Patient has been unable to void satisfactorily, so catheterized and 69 ounces obtained. Pads more foul; intra-uterine douche advised. This was attempted and diagnosis of inversion of uterus made. January 16—Under ether, an attempt was made to replace body of uterus. This was unsuccessful; patient went into extreme shock. Morphia, sub-pectoral salt and rectal tap again restored her to good condition. January 17—Under ether, another attempt was made to replace body of uterus. This was unsuccessful, so a laparotomy was decided upon. Median incision from symphysis pubis almost to umbilicus. Uterus found completely inverted, tubes being drawn in with fundus. An attempt was made to stretch the ring above and push the fundus up from below, but efforts failed. The posterior vaginal wall was finally split; the uterus then was pushed up, and a hysterectomy performed, a small portion of the cervix being left *in situ*. A drain was passed from pelvis into vagina; a second drain passed from pelvis out through abdominal wall, which was closed to the wick. Patient put to bed with pulse of 160; fair quality.

Patient recovered from shock of operation, but died sixteen days later of sepsis and exhaustion.

CONCLUSIONS.

1. Acute inversion of the uterus, post-partem can occur spontaneously.

2. Insertion of the placenta in or near the fundus of the uterus seems the most probable etiological factor.

3. Realizing the possibility of encountering the fundus weakened by being the placental site, great care should be exercised in expressing the placenta by pressure from above.

4. Shock, whether or not accompanied by post-partem bleeding, should demand immediate vaginal examination, unless the typical spherical fundus can be plainly felt through the abdominal wall.

5. Where the diagnosis is made too late for manual reposition from below, immediate laparotomy and reposition by traction with direct transfusion, offers the best chance for a successful outcome.

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A CASE OF MYOSITIS OSSIFICANS TRAUMATICA DEVELOPING FROM TORN CORACO-CLAVICULAR LIGAMENT WITHOUT OTHER BONY FRACTURE.

BY HERMAN W. MARSHALL, M.D., BOSTON.

THE thirty-two-year-old man, whose case is reported, was very well developed muscularly and in excellent health when he was injured. He was at work, lying on his back on the floor under a Ford touring car, when a wooden block started to split that had been placed as a support under the machine while a wheel was removed.

He attempted to roll quickly from beneath, but the running board pinned him down with one shoulder against the floor, and with a brace of the running board pressing down on the other shoulder, the right one, that was injured most.

He was extricated instantaneously, for he managed to make noise enough when the car squeezed out his last breath, to attract attention. He was able to get up immediately and went to a hospital on the following day, where he remained with both shoulders supported in bandages. The right one was held in a sling for nine weeks, and afterwards he managed to return to special light work within a few months of the time of his accident.

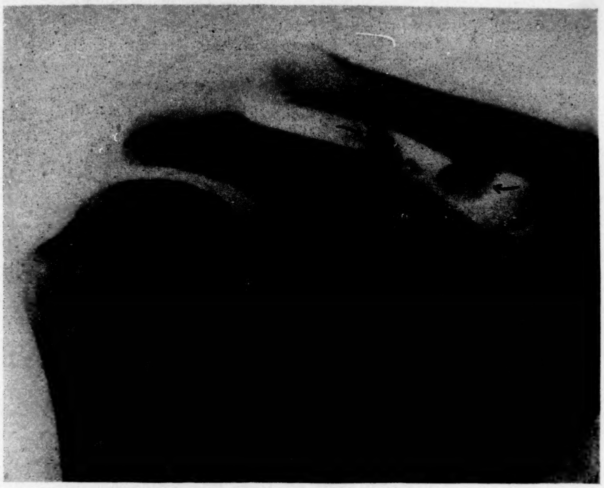

FIG. 1.

The writer saw him first, seven months after his injury. Prominent clinical features then were loud crackings and snappings when the scapula was rotated in movements of the arm. Pain was referred to the forearm, just below the elbow, and to anterior and posterior margins of the axilla. He continued to do whatever work he felt able to, and at a second examination, one year after his injury, the unusual scraping continued unabated. X-rays previously had shown no bony fractures, and additional ones taken one year after the accident, exhibited only slight changes around the acromio-clavicular joint.

No suspicion of serious rupture of the coraco-clavicular ligament was entertained at this time, although it was realized that there had been some unusual injury. Six months later, and eighteen months after injury, he presented nearly the same appearance, and he had continued to work during the interval. Practically all shoulder motions were possible now, with difficulty and hestitation. Extremes of scapula rotation were painful. Adhesive strappings relieved him considerably, and with this assistance he continued to support his family and run an automobile a part of the time.

Diagnosis of myositis ossificans traumatica was made, first from x-ray findings at one of the Boston hospitals about twenty-one months from time of original injury. An immediate operation was advised, but apparently the severity of damage to the coraco-ligament was overlooked. He could not afford to lay off from work, and it was agreed that he could postpone surgical treatment safely as long as he could continue to work and to improve.

Another x-ray was taken, which is reproduced in Figure 1. It shows two bony masses growing from the under surface of the clavicle at the site of the attachment of the coraco-clavicular ligament. Interpretation of the details of his injury, in view of these x-ray findings, makes it seem plain that the injuring force was transmitted through the humeral head to the glenoid fossa of the scapula without much direct pressure on the acromial process. Strain was thrown mainly on the coraco-clavicular ligament, and its trapezoid and conoid divisions both were broken instead of the outer end of the clavicle, as would have happened, presumably, if the acromion had been pressed directly and strongly. The two acromio-clavicular joints appear alike on the two sides, and both are somewhat relaxed.

An adhesive strap girdle was applied about the shoulder in a new manner when the extent of the injury to the coraco-clavicular ligament was fully realized, and loud crepitus was stopped instantaneously. Then a leather girdle was prepared that is shown in Figure 3, which accomplishes the same result.

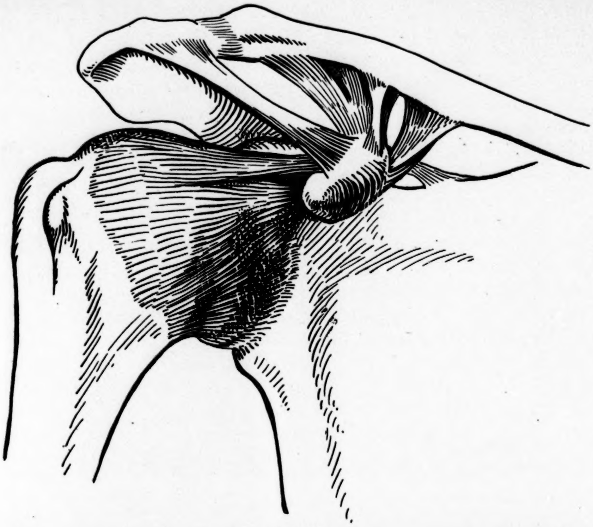

FIG. 2.

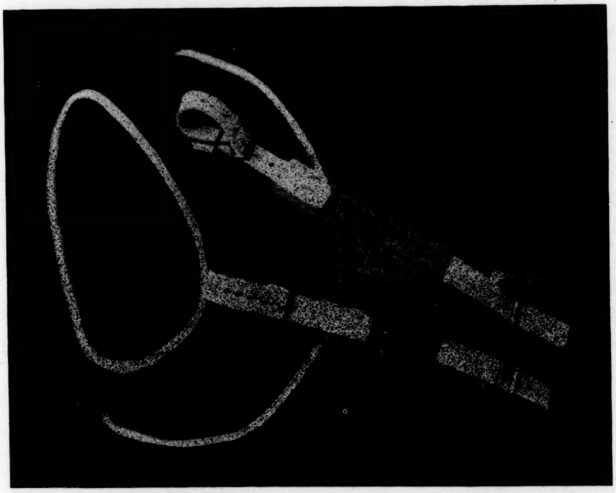

FIG. 3.

At the time of application of this support, twenty-two months after injury, he had considerable weakness of the arm. Light swinging of the arm back and forth, without much muscular force, no longer caused loud crepitus, but with tense muscles it persisted. He could lift 70 pounds with his right arm hanging extended, in contrast to 180 pounds possible with the left arm. Tenderness to direct pressure existed only over the front of the shoulder-joint at its inner side, and was felt in an inconstant manner in certain positions of the arm. This was interpreted as tenderness of the deeply situated coracoid process when its tip was pressed on occasionally in certain postures. The patient said there was a sore spot deep in the shoulder and indicated, himself, the location of the coraco-clavicular ligament through the trapezius muscle behind the clavicle on top of the shoulder. Neither the clavicle itself nor the acromio-clavicular region were tender. He could crawl again under cars to repair them, but favored the right arm a great deal.

This paper was prepared at this stage of progress, and questions might be asked whether he was receiving proper care, whether he should be operated on, and what his future prospects were likely to be.

Figure 2 is introduced to make clear the anatomical features of the case. The scapula is slung up to the clavicle by the strong coraco-ligament and it swings back and forth in movements of the arm from this fixed point. If this ligament is ruptured, then the shoulder blade can plough among the tissues in abnormal fashion, catching irregularly on underlying muscles and giving rise to audible coarse crepitus and snappings as obstructions are overcome.

The girdle of adhesive straps restricted scapular motions to some extent, and made the collar bone and shoulder blade move again as a normal unit sufficiently well to abolish the abnormal scraping. He noticed immediately there was very little shoulder pain on twisting the arm, but that it did not prevent the pain and weakness in lifting. Painful pulling on the coraco-clavicular ligament, through insertions of coraco-brachialis and biceps muscles into the coracoid process and evidenced by pain in the elbow in lifting, can be relieved only by additional strappings along the course of these muscles. The front straps of the leather girdle have been made of strong elastic webbing to permit freedom of respiratory movements, while thin steel straps reinforce the leather and prevent it from stretching in undesirable ways. The apparatus encases the shoulder blade and holds it tightly to the chest wall and clavicle, and relieves the damaged coraco-clavicular ligament very considerably.

Operative interference might permit repair of the ligament, and allow removal of the bony periosteal overgrowths.

If the abnormal bony masses which are intimately associated with ligamentous fibers were excised, there would be considerable sacrifice of ligamentous fibers, and there might be difficulties in approximations of torn ligamentous ends afterwards, so there are fair chances that ligaments might be weakened, rather than strengthened, by surgical measures directed mainly toward removal of bony defects.

It is known that proliferating detached periosteum will continue to proliferate for a while in these cases of myositis ossificans and then shrink usually into a quiescent state. It will not become a malignant tumor. Mention should be made of a new conception of myositis ossificans traumatica, that has been advanced recently by Dr. Charles F. Painter of Boston.

He believes there is a peculiarity, or diathesis, in persons who exhibit these periosteal overgrowths since all persons who suffer periosteal damage do not develop myositis ossificans. The process depends on two factors, a diathesis plus a mechanical factor. It would seem that slight traumata, in some cases, are sufficient to start the process, while in others more unusual conditions are required to make loose bits of periosteum grow free in the soft tissues. He would explain instances of myositis ossificans *progressiva* as due to a very marked tendency of the same nature toward periosteal proliferation, which results in production of the condition without traumata except ordinary continued mechanical strains accompanying usual body motions.

It seems to the writer that Dr. Painter's contentions are correct, and if so, then the patient under consideration is not liable to much more bony hypertrophy after his severe injury. X-ray appearances show a tendency toward well-defined, limiting outlines of bony surfaces which harmonize with this idea.

These bony abnormalities are doing no apparent harm, and therefore should be left undisturbed as long as he has as good function as at present, although from a scientific medical standpoint, it would be interesting to examine his shoulder surgically.

Distribution of pain suggests that the musculo-cutaneous nerve is involved in pains referred by the patient to the forearm just below the elbow, while pains felt over the margins of the axilla anteriorly and posteriorly perhaps can be explained as of circumflex nerve origin.

Muscle atrophy has been rather slight, and not more than can be accounted for, easily, by continued disuse. He is still very muscular.

If an opinion were demanded regarding his future prospects, it seems probable now that there will be some slight disability at least for a year or so longer. It would not be surprising to have him slowly recover, very gradually, and eventually become unconscious of remaininig weakness, after he learns to favor himself perfectly. Or it can happen easily, that he will keep the shoulder weak from continued slight overuse, so that the coraco-clavicular ligament becomes permanently weakened to very noticeable degree. If this happens, it can be operated on whenever disability justifies additional loss of time and surgical risks. While operation has not been advised in this unusual late case, it is probable that surgical repair of more recently torn ligaments without periosteal overgrowth represents the best treatment usually in the earlier stages, if diagnoses are made.

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Clinical Department.

A FURTHER CASE OF TUBERCULAR MESENTERIC GLANDS.

By Joseph M. Lynch, M.D., Boston.

Apropos of the two cases of tuberculosis of mesenteric lymph nodes recently reported by Dr. H. M. Clute (Boston Medical and Surgical Journal, September 30, 1920), the writer wishes to report a similar case observed while the patient was on the service of Dr. E. N. Libby at the Boston City Hospital.

It illustrates well the fact that a condition will obscure a diagnosis, or rather complicate a correct diagnosis, which later may be very simply explained.

The patient entered the hospital on January 4, 1920, spoke but very little English, and the history was obtained from an interpreter as follows:

G. C., male, aged 27. Born in Poland. Occupation, laborer. Chief Complaint—Abdominal pain and vomiting. Family History—Father and mother living and well. One brother and six sisters living and well. No known exposure to tuberculosis. Past History—Always well, so far as known, except for influenza pneumonia one year ago. Recovery good. Habits—Good. Denies luetic or gonorrheal infection. Present Illness—For the past eight months has had epigastric pain, fairly well localized in the epigastrium. Pain sharp at times, and is periodic. Pain comes on usually at night; does not radiate, and at times is sufficient to keep patient awake. Attacks of pain are usually accompanied by spells of nausea and vomiting at times, the patient being unable to retain even water. Vomitus consists of food eaten, has never been yellow, blood-tinged, or black. Never jaundiced. Has not noticed his stools.

Physical Examination—Fairly well developed and poorly nourished young man, with evident loss in weight. Not prostrated. Head—No scars or exostoses. Eyes—Pupils equal, regular, react normally. Ocular motions normal. Sclerae clear. Ears and Nose—Normal. Mouth—Tongue protrudes straight, clean, moist. Teeth—Good condition, well cared for. Throat—Normal. Neck—No rigidity or retraction. Nodes—None. Chest—Symmetrical; expansion equal. Heart—Within normal limits in size. Action regular, sounds good, no murmurs. Lungs—No abnormal dullness. Breath sounds normal. No râles. Abdomen—Level. No abnormal bulging. In the left upper quadrant to the left and above the umbilicus is a tumor the size of a hen's egg, nodular, firm, fixed, and not movable with respiration. Slight tenderness on pressure of mass. A smaller mass, size of large almond, freely movable, not attached to structures and not tender, is felt just to the right of the larger mass. Liver and spleen not felt. Extremities—Normal. The urine was repeatedly negative, at no time sugar being present. Stools showed presence of undigested fat. Temperature and pulse remained normal. White Blood Count—12,000. Differential—Polymorphonuclears, 53%; small mononuclears, 29%; large mononuclears, 18%. X-ray of Lungs—Both apices showed marked increase in density and mottling. Lungs otherwise clear. Pulmonary tuberculosis.

Further Observations — Patient's condition remained unchanged. On January 18 a bismuth series showed stomach high and transverse. Duodenum posterior. Tender in left flank, below stomach. Small bowel distention and delay (adhesion). Appendix beaded. Chronic appendix.

On January 20, 1920, patient was transferred to surgical service and operated upon on January 21. A high median incision was made, and the following was found: Large, firm mass of mesenteric glands in the region of the transverse colon at the attachment of the mesentery. Mesentery throughout studded with enlarged glands. No attempt at removal made. Wound sutured. Patient was later transferred back to the medical service, and subsequently discharged from the hospital. A later note is to the effect that the patient is at present at Rutland.

Apparently from the location of the tumor and its fixation, it seemed probable to be a pancreatic tumor of some kind, but the location of the mass, in the mesentery, close to its attachment, and preventing the moving of the mass with respiration, readily explained why it might well be called a tumor of the pancreas, which later was disproved.

ANEURYSM OF THE SPLENIC ARTERY, RUPTURING SIMULTANEOUSLY WITH PARACENTESIS ABDOMINIS.

By Joseph Garland, M.D., Boston.

History—D. C., male, aged 52, a granite polisher, was admitted to the Massachusetts General Hospital on the East Medical Service, Hospital No. 238041, August 6, 1920, complaining of dyspnoea on exertion, and edema. Family History—Negative. Past History—The patient had had a bad attack of tonsillitis thirty years ago. He had had gonorrhea at 29; syphilis was denied. The cardio-respiratory history was negative with the exception of an indefinite story of palpitation for twenty years. He had had nocturia, two or three times a night, for six years. Present Illness—About four months ago, after working for two days with wet feet in a ditch, the patient's feet became swollen at night. He stopped work for one week, lying down most of the time. The abdomen was slightly distended. Although the swelling was not much reduced, he returned to work at the end of the week. After half a day the swelling was greatly increased and he became dyspnoeic and returned to bed, where he remained five weeks. Five weeks before admission he again got up and was about for three weeks, although the edema still persisted in the face and hands. He became worse, and a week before admission was obliged to go to bed again.

Physical Examination—The patient was well developed and nourished, and of good color. The left pupil was greater than the right, but both reacted to light and distance. The right eye contained a small retinal hemorrhage. A few fine râles were present in the bases of both lungs. The cardiac impulse was seen and felt in the fourth costal interspace, 13 cm. to the left of the mid-sternal line. The action was slightly rapid. The aortic second sound was greater than the pulmonic, and accentuated. A systolic murmur was present at the apex, and a diastolic murmur was heard over the left fourth interspace at the sternal border. The pulses were equal and synchronous, and of high volume and tension. The artery walls were palpable. The blood pressure was 210 systolic; 125 diastolic. The abdomen was distended and tympanitic, with a definite fluid wave and shifting dullness. The liver dullness came to the fourth rib; the edge was not felt. The scrotum and feet were edematous, and a fine tremor of the arms and hands was present. The knee-jerks were normal.

During the patient's stay in the hospital the temperature varied from 98° to 103° F. A trace of albumin was present at every urine examination. There was marked fixation of gravity and a total chloride output of 0.895 grams on the Schlayer diet. The sediment contained white and red blood cells and rare granular casts. R. B. C.—3,000,000. W. B. C.—9,000 to 24,800. Non-protein nitrogen, 84.3 to 108.6 mgm. per 100 c.c. of blood plasma. Blood phosphates as P, 11.8 mgm. On two examinations the stool contained occult blood. August 7, blood Wassermann negative. August 17, blood Wassermann strongly positive.

X-ray of Heart—"Very definite change in heart shadow, especially to left, and apparent widening of supracardiac shadow which may be due in large part to tortuosity and high position of heart; probably sclerosis. May be some dilatation. Right border, 6 cm.; left, 13 cm.; transverse, 19 cm.; length, 20.1 cm.; base 9.1 cm.; width of great vessels, 9.5 cm.; internal diameter of chest, 28.5 cm."

August 11, digipuratum gr. iii, three times a day was started. August 15, digipuratum reduced to gr. iss, three times a day, and the patient was put on Karrell diet. August 16, abdominal paracentesis was performed, and 5500 c.c. of slightly cloudy, straw-colored fluid were withdrawn. Specific gravity, 1,010; cells, 510, all lymphocytes. August 19, the temperature and white count were elevated, and the patient was noticeably weaker. Both bases were dull. The edema was gradually disappearing. August 20, abdominal paracentesis was performed at 9 A.M., the trochar being inserted in the midline about midway between the umbilicus and the symphysis pubis. After 1200 c.c. of slightly cloudy, reddish fluid had been withdrawn, the flow stopped. As there still seemed to be fluid in the abdomen, the tap was repeated, the trochar being inserted one-half inch lower. Immediately the patient experienced a sharp pain in the abdomen, and the needle was withdrawn. Slight bleeding from the puncture wound followed, and the patient became pale and showed signs of collapse, with a weak and thready pulse and cold extremities. The respiration was periodic and gasping in character. Intravenous injection of normal saline solution was attempted, but the veins were so collapsed that they could not be entered. Death occurred at 12.30 P.M.

Autopsy 4109, performed by Dr. Oscar Richardson—"The peritoneal cavity contains about 3000c.c. of thin bloody fluid and a large amount of frank currant jelly-like blood clot, weighing about 1100 gms. From a point about 4 cm. from the end of the tail of the pancreas and extending along and about the organ and involving the head, there is a very thick layer of frank blood clot extending into the pancreas and into the lesser peritoneal cavity. The roof of the peritoneal cavity is disintegrated, and the blood clots are more or less continuous with those in the greater peritoneal cavity. The first portion of the splenic artery from a point about 6 cm. below its origin is capacious and negative. At this point a fibrous rounded ridge extends around the vessel with considerable decrease of its lumen. At a point about 3½ cm. from this ridge the vessel presents another ridge, slightly calcareous. It produces considerable diminution of the lumen. Between these two rings rests an aneurysmal sac about 3 cm. in diameter. The wall of the sac is thin, fibrous, and shows at one place a small area of fibro-calcareous change, within which there is a small irregular crevice about 4 mm. long, which extends through the wall into the region of the blood clot. The artery beyond the aneurysm is very tortuous and capacious, but shows only a slight amount of fibrous sclerosis. The sac contains a small amount of blood and blood clot."

COMMENT.

This case is interesting on account of the extreme rarity of the lesion, but especially so on account of the dramatic ending; the rupture occurring simultaneously with the simple procedure of abdominal paracentesis. The reason for the rupture at this particular moment can only be conjectured. The excitement of moving the patient and performing the tap might have temporarily increased the blood pressure to the aneurysm's bursting point, or the withdrawal of a liter of fluid from the abdomen might have caused a relative drop in the pressure of the structures surrounding the aneurysm. It is hard to believe that the rupture was due to a simple coincidence. Direct trauma from the trochar was shown at autopsy to have been quite impossible.

In over 4100 autopsies at the Massachusetts General Hospital, aneurysm of the splenic artery has been found three times. The author has found 17 cases mentioned in the literature, the most recent of which, reported by Högler,* is said to have been diagnosticated during life.

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* Högler: Aneurysm of Splenic Artery. Wien. Arch. für in. Med., August, 1920, p. 543.

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A CASE OF CONGENITAL CYSTIC KIDNEYS AND OTHER CONGENITAL ANOMALIES.

By Lawrence Weld Smith, M.D., Boston.

[From the Medical Service of The Boston Floating Hosital and the Pathological Department of the Harvard Medical School.]

The following case with its autopsy report is of interest chiefly because of the multiplicity of the congenital anomalies, the most striking of which are the twisted, thickened, hydropic ureters and the almost microscopic cystic kidneys. A plate illustrating this feature of the case is appended. Any theorizing concerning the possible etiology of such marked anatomical variations might well be regarded as superfluous. This report is intended merely as a record of fact, and whatever embryological speculation it may arouse is left forthwith to the reader.

Both the clinical history and the pathological report are abbreviated as much as is consistent with presenting the essential features of the case. The baby was admitted to the service of Dr. Paul W. Emerson, to whom I am deeply indebted for the clinical notes.

Clinical History—Joseph G., Hospital No. 3457, aged, 2 months, August 4, 1920. Family History—The father (aged 28 years), mother (aged 27 years), and three children (aged 6, 4 and 2 years, respectively) living and well. The mother had a miscarriage in her first pregnancy and another in her fifth. No history of syphilis was obtained. Past History—The baby was probably premature, weighing about three pounds at birth, June 3, 1920. Normal labor. He has been breast-fed since birth at 2½-hour intervals. He is said to have had a hernia since birth. Present Illness—Two weeks ago baby had a severe crying spell, during which mother noticed baby was somewhat blue. Following this, his breathing became labored, "heavy," and this difficult, rapid respiration has been more or less persistent since that time. The mother has noticed the cyanosis—"blueness"—at intervals ever since the baby's birth, but merely thought that the baby was cold. The attack two weeks ago was sudden in onset and more severe than the earlier ones. There has been no marked cyanosis since. Three doctors saw the baby and diagnosticated the condition variously as a leaky valve, a cold on the chest, and stomach and bowel disorder. The mother was not satisfied and finally came to The Boston Floating Hospital. The chief complaints are the peculiar breathing, the cyanosis and an appearance of prostration. There has been no fever, no vomiting, no diarrhea (3-5 yellowish, smooth stools a day). Appetite good; seems satisfied after nursing. He sleeps poorly and is very restless; at times he has seemed prostrated; has had no convulsions; has difficulty in breathing, and has had a slight cough, but no nasal discharge.

Physical Examination—A small, fairly well nourished infant, extremely dyspnoeic, somewhat prostrated and slightly cyanosed generally. The skin is dry. Reflexes—Normal. Pupils equal and react to light. Neck not stiff. No Kernig, ankle clonus or Babinski. Knee-jerks normal. Head—Fontanelle slightly depressed; measures 4½ x 5 cm. Eyes, ears, nose and throat are negative, except the tonsils are hypertrophied. Thorax—Normal in shape; no evidence of rachitis. Heart—The apex beat is at the nipple, has fair force, a rate of 140, and marked sinus arrythmia. A2 is greater than P2. There is a systolic murmur over the base transmitted to the back. Lungs—Both lungs are hyper-resonant. d'Espine sign to third thoracic vertebra. There are no râles and the breath sounds are normal. Abdomen —The liver edge is palpable, 1 cm. below costal margin. There is an inguinal hernia present on each side, admitting the tip of the little finger, and having a definite impulse.

Clinical Diagnosis—(?) Thymus. (?) Congenital heart. Bilateral inguinal hernia. Anhydremia.

Laboratory Data: Urine — Acid, cloudy, large trace of albumin, no sugar or acetone. Sediment was negative in the only specimen obtained. Stool—Acid, aromatic, few small fat curds; no fatty acids, soaps or starch. Blood Hemoglobin, 55%; white cells, 18,000; red cells, 2,400,000. Differential Count — Polymorphs, 57%; lymphocytes, 38%; transitionals, 5%. Smear:—Marked anisocytosis, poikilocytosis and achromia. Von Pirquet—Negative. Wassermann—Negative (post mortem)

Subsequent History: Admitted with subnormal temperature and marked dyspnoea. Put in premature jacket, given caffein gr. ¼ in brandy M VIII subcutaneously q. 3 hr. p. r. n. as pulse was very poor. Took food well first night. Had almost continuous convulsions the next day and food had to be given with tube. Condition about the same for next 24 hours, when he suddenly went bad and stopped breathing. Discharged, dead, August 6, 1920.

Pathological Report: Body—The body is that of a well developed and well nourished infant measuring 51 cm. in length. The skin is clear. There is a moderate post-mortem lividity. There is a moderate layer of subcutaneous fat which is somewhat oedematous, especially in the dependent portions and pits slightly on pressure. The inguinal rings on each side admit the tip of the little finger and are obviously potential herniae. Peritoneal Cavity — The peritoneal cavity contains about 50 c.c. of pale straw-colored fluid which smells strongly of urine. There is no other evidence of peritonitis. The sigmoid is redundant with a complete extra loop, which is free, floating on the fluid in the abdomen. The colon is tremendously dilated as far as the sigmoid, where it becomes sharply constricted, remaining so through the rest of its length. The ileum shows two small diverticuli about midway. These measure over 2 cm. in length and 0.5 cm. in diameter. A striking feature of the abdominal contents is the dilated ureters which are easily confused in appearance with the ileum. These will be described in greater detail later. Lungs—Pleural and pericardial cavities show no abnormalities. Both lungs show a moderate hypostatic congestion. There is a recent terminal broncho-pneumonia present in the right base, of not over 24 hours' duration. (This condition, while a contributing factor in causing death, has no bearing on the discussion and can be dismissed at once, therefore). Heart—Weighs 19 gms. It is a normal appearing organ externally, small and contracted. On opening the auricles, however, there is seen a widely patent foramen ovale with no suggestion of a closing membrane. The ductus arteriosus is likewise patent. The other common cardiac defects are not present in this heart, however,—pulmonic stenosis and patent interventricular septum. Abdomen —The gastrointestinal tract, beyond the congenital abnormalities already noted, is normal. The liver, spleen, pancreas, gall-bladder and ducts show no gross pathology. The suprarenal capsules are normal in size. They appear relatively hypertrophied because of the diminutive size of the kidneys which they overlie and nearly obscure.

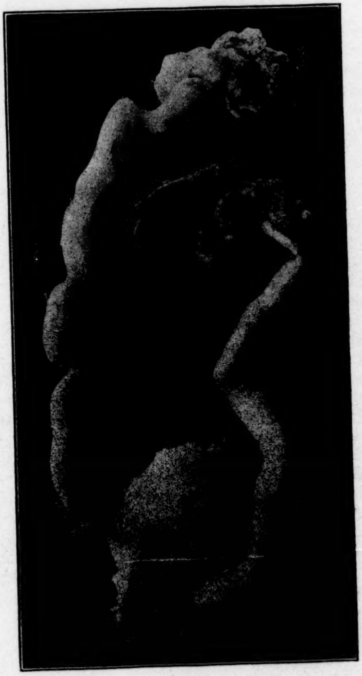

PLATE I.—Posterior view of bladder, ureters, kidneys and suprarenal glands. Two-thirds actual size.

Genito-Urinary Tract: Kidneys—The kidneys are small, weighing about 7 gms. together (they were not separated from the ureters, so the absolute weight cannot be given). Their capsules are thin, filmy, fibrous affairs which strip very easily. The surface of each kidney is studded with several small, thin-walled, bleblike cysts varying in size from 1.0 mm. to 6.0 mm. On section, the kidney parenchyma contains likewise innumerable small cysts,—chiefly in the cortical region. The normal architecture of the kidney can be made out readily, however, and the normal relation of cortex to medulla persists. The calyces and pyramids are somewhat distorted, especially in the left kidney. The pelvis of the left kidney is markedly dilated and the picture is definitely one of hydronephrosis. In the case of the right kidney, however, this condition is much less marked,—there being a constriction of the ureter with considerable thickening of its muscular coat for a distance of 1 cm. below the pelvis, which is itself but very slightly dilated. Ureters—The ureters present a twisted, thickened, distended appearance with several constricting fibrous bands, especially along the course of the left ureter. They measure in diameter approximately 1 cm. on the average, in places exceeding this by nearly as much again. The left one presents a fibrous constriction at the point of entry into the bladder wall, and the lumen of the ureter at this point will admit only the finest probe. This constriction is not so marked in the case of the right ureter. Bladder—The bladder shows marked hypertrophy of its walls with a thickening of its mucous membranes. This is the only pathological feature noted in regard to this organ. Prostate and Urethra—There is marked constriction in the lumen of the urethra in its prostatic portion. This will not admit the finest probe. There is obviously a congenital stricture of the urethra at this point. This suggests a mechanical cause for the pathology of the genito-urinary tract. Testes—The right testis is normal in size and appearance. The epididymis on this side occurs apparently as a separate organ superimposed upon the testes and connected with it only by a fibrous cord containing a duct. The left testis is not descended and is found just above the internal inguinal ring. It is distinctly smaller than that of the right side. The epididymis of this side appears similarly diminutive but normal otherwise. The ducti deferentes are somewhat thickened.

Microscopic Examination—The microscopic examination of the tissues contributes nothing additional of interest or of value in discussing the case, and will therefore be omitted.

DISCUSSION.

As I have said in introduction, the interest in this case is in its multiplicity of congenital anomalies. These include:

1. Congenital cystic kidneys and hydronephrosis.
2. Congenital hydropic ureters.
3. Congenital hypertrophy of bladder.
4. Congenital stricture of the urethra.
5. Congenital undescended testicle (left).
6. Congenital abnormality of epididymis (right).
7. Congenital bilateral inguinal herniae.
8. Congenital diverticula of ileum.
9. Congenital redundancy of sigmoid.
10. Congenital heart.
    - *a.* Patent foramen ovale.
    - *b.* Patent ductus arteriosus.

In discussing the case, the only point I wish to make is that which was raised at the time of the autopsy, of the possible mechanical origin of the hydro-ureters and hydronephrosis because of the urethral stricture. There does not seem to me sufficient evidence that this condition is merely a damming back of the kidney products, for mechanics alone would explain with difficulty the diminutive size of the kidneys and the fibrous bands around the ureters of the trigone on the left and at the pelvis of the kidney on the right. It seems much more readily explained by considering the several features of the case as all due to congenital defects.

That such an imposing array of defects should occur in an individual seems sufficiently unusual to warrant the reporting of the case.

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Book Review.

Medical Service in Modern War. LIEUTENANT-COLONELS P. S. BOND and C. F. MARTIN, U.S.A. Wisconsin: George Banta Publishing Company. 1920.

"Medical Service in Modern War" presents a well-arranged and coördinated account of the functions and practice of our Medical Department during the World War. The forty thousand American physicians and surgeons who served in the United States Army had little conception, on entering service, of the methods employed by the Medical Department for the conservation of man power in war time; in the interest of National Defense, every physician should be familiar with the information on this subject contained in this book. The authors have outlined briefly the facts which the medical service should understand about army organization, and have described in detail the general functions of the Medical Department, medical equipment of division, corps, and army, methods of managing the evacuation and treatment of sick and wounded, and medical service in open warfare. As the book is based on the experiences of the Medical Department during the war, it is practical, and indispensible to those who might be called upon to serve in the capacity of medical officers in time of need. A summary of health and casualty statistics of the World War is included in the Appendix.

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OBITER DICTA.

It is with great regret that the retiring editor relinquishes his duties in connection with the Boston Medical and Surgical Journal, with whose editorial staff he has been associated since 1909. He had earnestly hoped that this association might continue, and that he might remain in charge of the Journal until its centennial, in February, 1928.

Next to the *Lancet*, the Journal is the oldest weekly medical publication in English. For nearly a century, under private ownership, it has fearlessly, consistently, and independently endeavored to represent and maintain the best opinion and standards of the medical profession, not only in Boston, but in New England. When, in 1914, the first affiliation with the Massachusetts Medical Society was formed, it was intended that this representation should become more complete and effective. Now that the ownership of the Journal is to be transferred to the Society, it is expected that the Journal will even more fully and satisfactorily express the opinions and purposes of the rank and file of the profession.

The Boston Medical and Surgical Journal has had an honorable and distinguished history. Its principles are progressive. For its future, the retiring editor hopefully desires a continuance of the spirit which has animated its traditions; and for those to whom its conduct is entrusted, he cordially wishes the fullest measure of prosperous achievement. Finally, he leaves his sincerest and most grateful appreciation to those whose single-hearted fidelity and devoted assistance, during the past years, not only have made possible the conduct of his administration, but have rendered his experience with the Journal one of the happiest of an unusually fortunate life. *Quod bene felix faustumque sit.*

COMMITTEE ON RURAL HEALTH AND MEDICAL SERVICE.

New agencies are now at work to promote rural health. There should be recognized at the start, a natural affiliation with the older agencies so long and so vitally associated with health matters in the past, and the need of soliciting cordial coöperation from these. The following committee on rural health and medical service has, therefore, been recently formed:

President, K. L. Butterfield, Massachusetts Agricultural College, Amherst; Arthur W. Gilbert, Commissioner of Agriculture; Dr. E. R. Kelley, State Commissioner of Health; Dr. E. H. Bigelow, Public Health Commissioner of the Massachusetts Medical Society; Mrs. W. L. Putnam, Boston; Dr. P. W. Goldsburg, Deerfield, Mass.

The city trend, the hospital and clinical developments in the large centres, are facts which the doctor in the rural districts has to face more and more. He has been, and is, put to a great and growing disadvantage. The old-time doctor, by reason of his special training and breadth of experience, has been able to hold a position of unusual influence and power in the communities in which he has labored. His work has been of such a confining nature, his life so drawn upon to maintain the vitality of that community environment, where so much has been expected of him, that in all justice, the vantage of his professional heritage and its highest functioning under present conditions, demands a more appreciative and intelligent consideration and protection. We desire, therefore, eo encourage such measures as will insure his enlistment in the newer advances, and make use of his accumulated knowledge and experience in respect to his own fields. We desire, also, to further those means to bring within practical reach, hospital and clinical facilities, and the educational methods for keeping abreast of the times, all of which are so essential to individual efficiency and community welfare.

We, therefore, endorse this special endeavor to promote a better understanding and coöperation of agencies, new and old, which must serve life and welfare in the back districts, and ask the support necessary to carry along this work.

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LEGISLATIVE STATUS OF ANTI-VACCINATION IN MASSACHUSETTS.

The endorsement of the anti-vaccination bill by the Senate is disquieting, especially at this time, because of the presence of smallpox in the city of Boston.

The proponents of the bill have carried on an active campaign of several years, which has, apparently, confused the minds of some of the legislators. The House has been the bulwark of defense.

Physicians should understand that the education of the people should not be left to the work of the committee on legislation at hearings before the Public Health Committee of the legislature, for under the stress of controversy, it is difficult to secure judicial treatment of a subject. The people should be educated by physicians and made to understand that the great weight of medical opinion is in favor of the protective power of vaccination. The Senate vote is published for the information of physicians throughout the State.

In favor of removing the compulsory vaccination system as applied to public schools:

Yes—Butler, Carey, Carrick, Churchill, Cooke, Dahlborg, Donovan, Emery, Englert, Gould, Green, Griswold, Halliwell, McLane, Moulton, Nelson, Quinn, Tarbell, Wadleigh and Wright. Total, 20.

No—Babb, Casassa, Chamberlain, Clark, Gibbs, L. F. Hardy, W. A. Hardy, McDonnell, Monk, Naphen, Parkhurst, Pearson, Putnam, Reed, Trefry. Total, 15.

Paired—Yes, Shea; no, Wells.

Opponents of the measure are confident it will meet defeat in the House, as in other years.

On Thursday, April 7, the House of Representatives overwhelmingly reversed the action of the Senate and defeated the bill by a vote of more than a hundred to twenty. The people are under obligation to the House for this expression of confidence in the arguments of physicians. The State is to be congratulated on having several well qualified physicians in the House.

Perhaps the Senators who voted for this bill may, at some time, inspect a case of smallpox and study the whole question, away from the influences which were actively at work in the lobby.

◆

In Honor of Mme. Curie.—The June issue of the *Medical Review of Reviews* will be a special radium number, dedicated to Mme. Curie. The issue will consist exclusively of articles on radium and its uses, written by the most prominent radiologists in the United States and Canada.

Copies will be sent, complimentary, to every physician interested in the uses of radium, and any readers of this item who desire that issue may have it by asking for it from the Medical Review of Reviews, 51 East 59th Street, New York.

◆

THE DANGER OF TYPHUS FEVER.

The unsettled conditions in Europe, together with the vast number of immigrants coming to this country, have increased the likelihood of typhus fever infection being introduced into this state. The Massachusetts Department of Public Health, therefore, wishes to call this fact to the attention of the medical profession of Massachusetts and to urge that special care be exercised in the diagnosis and differentiation of exanthematous conditions of newly arrived immigrants or their associates.

Typhus fever is an acute, febrile, specific, infectious disease, with characteristic macular, often hemorrhagic, exanthem and accompanied with severe nervous and mental symptoms. The incubation period is from five to twenty days,—average, twelve days. Onset is usually sudden, with chill, fever, headache, myalgia, severe prostration, tachycardia, coated tongue, suffusion of face and eyes, mental dullness, delirium and vomiting. The exanthem appears on the fourth or fifth day, on the lower abdomen and shoulders; later, upon the chest, back, and upper abdomen, and last, upon face and extremities. The whole rash appears within two or three days and lasts from a few days to a week or more. The rash consists of pale red spots, varying in size from a pinhead to a small pea, being macular. After a few days it assumes a dirty red color and ceases to disappear upon pressure. Some spots become definitely hemorrhagic. The fever rises suddenly, with only slight remissions. Defervesence occurs at the end of the second week, generally by rapid lysis, becoming subnormal in twelve to twenty-four hours. There is usually a slight leucocytosis, 12-15,000.

The disease should be differentiated from typhoid fever, smallpox, epidemic cerebrospinal meningitis (spotted fever), and measles. It is transmitted exclusively by the bite of body or head lice, and the prevention lies in cleanliness. There is no possible danger of a typhus epidemic or typhus outbreak in a deloused, cleanly community.

The Department of Public Health will be glad to assist in the diagnosis of any questionable case.

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ENCEPHALITIS LETHARGICA.

Encephalitis Lethargica appeared in Austria in 1916, in England in early 1918, and in the United States in the winter of 1918-1919. It is popularly spoken of as the "sleeping sickness," because an important symptom of it has often been lethargy and sometimes deep coma. The name, "sleeping sickness," however, has already been preëmpted for another disease, "African trypanosomiasis," which also, and more particularly, is characterized by sleep or coma.

The Department of Public Health of Massachusetts, on April 5, 1919, requested voluntary reporting of this disease by physicians and boards of health, and at a meeting of the Public Health Council held February 8, 1921, encephalitis lethargica was declared to be a disease dangerous to the public health and as such reportable under the provisions of Sections 7, 109, 111 and 112 of Chapter 111 of the General Laws. This action was taken because of the present unusual prevalence of the disease which was brought to light by a recent investigation by the Department. The principal reason for making the disease reportable was in order to facilitate the gathering of information about it, and in taking this action the Council did not feel that present knowledge justifies any restrictive measures, such as special quarantine and exclusion from general hospitals.

To February 1, 1921, the Department of Public Health had records of 75 cases; 33 were prior to January 1, 1921, and 42 occurred during January, 1921. Based on these cases, and more especially on the literature, observations have been made on the present status of our knowledge of the disease. The etiology of encephalitis lethargica is not known. Some investigators claims that, like poliomyelitis, it is due to a filterable virus, but these claims have not been corroborated; the ideas that it might be due to food poisoning, notably botulism, or was a sequela of influenza, have both been discarded as disproved. The investigation of January cases did not point to either of these factors.

Pathologically, encephalitis lethargica is a perivascular infiltration of mononuclear cells and an edema about the blood vessels in the encephalon. Sometimes small hemorrhages occur. The structures particularly mentioned as affected have been the optic thalamus, the third and lateral ventricles, the aqueduct of Silvius, the pons, the medulla, etc. The cord is occasionally also affected to some extent. The hospital cases investigated have given histories of spinal fluid cell counts averaging from 15 to 50 cells, generally mononuclear in character. Where there was a high count, some polymorphonuclears were noted.

The general symptoms of the disease are general irritability, nervousness, sleeplessness, headache, loss of appetite, and nausea. A low grade fever is often seen. As the case progresses, lethargy, mental depression, drowsiness and somnolence very commonly appear; but the very opposite has been noted, as excitability and even delirium and mania. Among the localizing signs, diplopia and ptosis are exceedingly common. Other symptoms of a localizing nature are numerous, as, facial paralysis, polyneuritic symptoms, blurred vision, vertigo, tremors, twitchings, muscular pains, and weakness.

The fatality rate of encephalitis lethargica has been variously stated at from 15 to 40 per cent. Of the 28 hospital cases of the series of January cases studied by the Department, there were ten deaths, giving a fatality rate of 35 per cent. The very fact of hospitalization in these cases would seem to indicate that they were of a severe type. It is probable that many mild cases of the disease exist, and that when these, as well as the severe types, are diagnosticated, the fatality rate will be much less than above indicated.

Of the 33 Massachusetts cases prior to January 1, 1921, in only five instances did the facts stated on the histories fully justify the diagnoses. Of the 42 January cases, 28 were in hospitals, and in only one or two instances was there any doubt whatever of the diagnosis. Of the first 33 cases reported, five were children and 28 adults. All the January cases were adults.

From this study, though, on account of the small number of cases, they cannot be conclusive, the following observations are made:

1. As it has occurred in Massachusetts, the incidence has been a winter time incidence.
2. Adults have been far more commonly affected than children.
3. There was generally no recent acute illness within a reasonable period prior to the onset of these cases.
4. No single, authenticated instance has been found suggesting that the disease is directly contagious, such as grouping of cases or multiple cases in a family.
5. There is now in the minds of the profession a well defined picture of what is to be diagnosticated as encephalitis lethargica, which was not true in 1918-1919.
6. A well defined impression exists among neurologists and clinicians that the disease may increase in prevalence in future years.

MEDICAL NOTES.

BELGIAN MEDICAL STUDENTS IN AMERICA.—Medicine is a popular subject with the exchange students of the Commission for Relief in Belgium Educational Foundation, for out of a total of twenty-four Belgian students at work in American universities, ten are devoted to the science of medicine.

Five come from Brussels University, two from Louvain, two from Leige, and one from Ghent. They are now studying in Johns Hopkins, California, Harvard, Columbia, University of Pennsylvania, Cornell, Yale, and Stanford, and are specializing in stomatology, neurology, bacteriology, ophthalmology, and surgery.

These and fourteen other Belgian students are studying in American universities as fellows under the C. R. B. Educational Foundation, which with the parallel organization in Belgium, the *Foundation Universitaire,* provides for the exchange of forty-eight graduate students yearly between America and Belgium, twenty-four from each country. Loans are also arranged for undergraduates in Belgium who are unable otherwise to get university training. About 2,000 students will benefit yearly under the Foundation. Some provision was also made for the rehabilitation of Belgian universities wrecked during the war.

MEDICAL APPOINTMENTS IN THE U. S. NAVY.—There is at present a large number of vacancies in the Medical Corps of the Navy, and examinations are being held at frequent intervals in several of the coast cities in the United States, both on the east coast and the west coast, and also at Chicago, Ill. For the present, appointments will be made directly into the Medical Corps of the Navy instead of by preliminary enrollment in the Naval Reserve Force.

The physical requirements will remain the same, but the professional examination will be on the subjects of General Surgery, General Medicine, General Hygiene and Sanitation. There will also be a practical examination.

As a consequence of this change, successful candidates, who may be ordered in attendance upon a course of instruction at the Naval Medical School, will be given an examination upon completion of such course for the purpose of determining the value they have received from the course of instruction, but not with a view to determining their position in the regular service, this being accomplished by entrance examination.

The Bureau of Medicine and Surgery, Navy Department, Washington, D. C., will be pleased to furnish any further information to prospective candidates upon written inquiry to this Bureau.

GRANTS FOR MEDICAL RESEARCH.—Among the grants for research made by the American Association for the Advancement of Science, are the following:

One hundred and fifty dollars to Professor Carl J. Wiggers, Western Reserve University, in continued support of his investigation to the physiology of the circulation.

One hundred and fifty dollars to Professor Frank A. Hartman, University of Buffalo, for aid in the study of suprarenal insufficiency, including circulatory, respiratory, temperature, and fatigue changes, as well as possible histological alterations in the ductless glands.

Two hundred dollars to Professor W. E. Garrey, Tulane University, for the purchase of apparatus for hydrogen ion determination.

One hundred and fifty dollars to Professor F P. Knowlton, Syracuse University, in support of a study of the blood flow and gaseous metabolism in the thyroid gland.

JEFFERSON MEDICAL COLLEGE.—By the will of Daniel Baugh, a legacy of $150,000 has been left to the Jefferson Medical College of Philadelphia, to be used for the salary of the Professor of Anatomy and Director of the Daniel Baugh Institute of Anatomy and Biology.

AMERICAN FUNDS FOR THE GERMAN MEDICAL PROFESSION.—It has been recorded in the *Deutsche medizinische Wochenschrift* that Dr. Lange, of Chicago, has sent to Professor Paltauf, of Vienna, 7,000,000 crowns collected in America. It has been reported also that another sum of $10,000 has been forwarded from America to aid the university professors. The Rockefeller Foundation has also appropriated $60,000 for assistance to the Vienna clinics. This sum is said to be equivalent to 40,000,000 crowns at the present rate of exchange. The salaries of the regular university professors of Vienna increased materially last year, being 45,000 crowns, increasing by 4,000 crowns every fourth year to a maximum of 70,000. It has been reported in the *Münchener medizinische Wochenschrift* that Dr. A. Stein, chief of the Lenox Hill (formerly the German) Hospital, has recently sent a large sum collected in America to Frankfort-on-the-Main to be applied for scientific purposes.

VACCINE FOR TUBERCULOSIS.—An article published in the *Petit Journal* indicates that progress has been made in the struggle of the medical profession to find a cure for tuberculosis. The experiments of Professor Calmette, sub-director of the Pasteur Institute, have been described and are of considerable interest. At the end of thirty-four months, when the animals were slaughtered, it was found that of four unvaccinated heifers, three showed advanced tuberculosis; of six unvaccinated beasts, the two which had only once been vaccinated showed distinct signs of the disease; but the four animals which had been been vaccinated three times, although they had been in constant company with the tuberculous companions for thirty-four months, showed no trace of the disease. Further experiments are now being made.

To find out whether this vaccine can be applied successfully to man, experiments will be necessary on chimpanzees and anthropoid apes. As these animals do not take kindly to temperate climates, Professor Calmette and his collaborators have decided to build an experimental laboratory in French Guinea. The Pasteur Institute has obtained the concession of Rooma Island, four miles from Konakry, for their researches, and the Governor of Western Africa has put at the Institute's disposal from the 1921 budget, the sum of £6,000, with which the laboratories will be constructed. The researches of the scientific missions will take some years, and the estimated expenditure is £5,000 a year.

APPOINTMENT OF LECTURERS.—Dr. Herbert Spencer has been chosen to deliver the Harveian oration in London in October; Dr. Michael Grabham, of Madeira, will deliver the Bradshaw lecture in November; and Dr. Major Greenwood will deliver the Milroy lectures in 1922.

COMMITTEE FOR REHABILITATION HOSPITALS.—The following physicians have been chosen to be a committee to survey the country and locate the soldier rehabilitation hospitals provided for by recent legislation: Dr. William C. White, Pittsburgh, chairman; Dr. Frank S. Billings, Chicago; Dr. Pearce Bailey, New York, and Dr. W. G. Bowman, Pittsburgh.

YOUTH AND LIFE.—"Youth and Life," the new exhibit of the U. S. Public Health Service, consists of 24 attractively illustrated cards, measuring 28 x 22 inches each. The exhibit, which is especially addressed to young women, is an appeal for physical fitness as the best aid to fulfilling the duties and enjoying the pleasures of life. The value of hygienic living and the need of plenty of exercise, fresh air, sleep, and proper food are emphasized. The function of the glands of the body, including the sex glands, are shown. Human reproduction is approached through a brief presentation of reproduction in plants and animals; and attention is called to the probable effects of sex misconduct (venereal diseases). Womanliness, motherhood, and home-making are extolled. This exhibit may be borrowed for special work from State boards of health or be purchased through the American Social Hygiene Association, New York City.

Reports on Non-Respectable Diseases.—An increase of about 30 per cent. in cases of venereal disease reported from all states except Nevada and the District of Columbia is shown in reports to the U. S. Public Health Service for the three months ending September 30. Seven states have laws requiring physicians to report all such cases with the names of the patient; and nearly all of the other states require them to be reported without names. The sudden jump in the number reported probably means, not that the diseases have increased, but that more physicians are obeying the law. Curiously enough, the reports indicate that physicians in western states are far more law abiding than those in the East. Massachusetts, for instance, with a population of 3,850,000, reports a good deal less than 3,000 cases, while Texas, with a population only one-fifth larger, reports more than 15,000 cases. Other western and eastern states show similar relations.

Medical Meetings in Cleveland.—The American Association of Pathologists and Bacteriologists, the American Society for Cancer Research, the American Society of Immunologists and the International Association of Medical Museums (American and Canadian Sections) held meetings in Cleveland from March 24 to 26.

Yale University Degrees.—Announcement has been made that the graduate school of Yale University has been authorized to confer the degree of Doctor of Philosophy for work in clinical medicine, and in pharmacology and toxicology.

State Care of Mental Defectives.—The different states are beginning to realize more and more, the perils that result from neglecting the complications that mental diseases introduce into the problems of delinquency, crime, dependency, and other social ills, and are adopting measures for the cure and prevention of these diseases. Particular attention is being given to preventive work among children, because they are likely to suffer from many small and easily remediable health defects which, if neglected, may heavily handicap them in later life.

Delaware is the latest state to take action. As a result of a two-year survey in Sussex County, following a similar survey in New Castle County, both made by the U. S. Public Health Survice, in collaboration with the Children's Bureau, the state officials engaged in the care of mental defectives have become intensely interested in the establishment of a bureau of mental hygiene in connection with the State Board of Charities, to deal with the subject.

At the request of the Secretary of the Board, the representative of the Public Health Service who had directed the original surveys, was sent to Delaware to outline a program for the institutional care and community supervision of the mental defectives, resident in the state.

First steps in carrying out this program have been taken by the appropriation by the legislature of $60,000 for improving the care and treatment of the mental patients in the State Hospital at Farnhurst. A training school for nurses specializing in neuropsychiatric diseases will be opened; reconstruction aides in both occupational and physico therapy will be engaged; additional physicians will be employed.

Vacant Beds in Public Health Hospitals.—Recent statements that the U. S. Public Health Service had 4,000 vacant beds in its hospitals while asking for more hospitals, has brought out the following reply from Surgeon-General Cumming:

"On February 19, the date of our last weekly report, about 2,200 beds were vacant in our hospitals. Of these, about 1,200 were "new" beds in hospitals just opened or in additions to older hospitals; none of them were really in full working order. This leaves about 1,000 vacant beds, or 6 per cent. of our total capacity of 17,394. This does not, of course, include our patients in rented beds in contract hospitals, who numbered 10,213.

"Six per cent. leeway is a frightfully narrow margin on which to run any hospital; for any day, any hour the hospital may be swamped by new patients. Particularly is this so in hospitals for soldier patients, a very large percentage of whom are continually asking for discharge or transfer to other hospitals, or leaving without formality. The turnover in our hospitals for the week was 2,274 admitted, and 1,785 discharged.

"The six per cent. does not, of course, refer to the same beds, or to beds in the same hospital, city, state, or even section of the country. Almost any of our hospitals may, and not infrequently does, run 20 per cent. below on one day and 10 per cent. over on the next—with the men sleeping in improvised beds till they can be transferred to other hospitals.

"The situation is made more difficult by the necessity of setting aside 20 out of our 56 hospitals for special troubles—12 for tuberculosis patients, 7 for neuropsychiatric patients, and one for epileptics. Such patients are, of course, not interchangeable.

Another difficulty arises from the lack of personnel, especially of nurses, the demand for whom is everywhere pressing. In spite of its utmost efforts, the Service has been unable to recruit its corps fast enough to keep pace with the increase in its patients; and it is now about three hundred short. Without nurses, a hospital cannot be efficiently conducted; and the Service is continually being forced, now in this hospital and now in that, to keep down the number of patients, or to render insufficient service to all.

"Similar shortages exist in the ranks of its reconstruction aides and its dietitians, all of whom, like its nurses, are women. Lack in these bodies, though not quite so vital, nevertheless, means much to the health and the comfort of the patients."

Child Health Demonstration. — Preliminary plans for a child health demonstration, unique in character and scope, and promising to prove of first importance in the general movement for conservation of child life and health, have been announced by the National Child Health Council, with headquarters in Washington, D. C. With an appropriation of $200,000 set aside for this purpose, the Council, composed of six leading national health bodies, will assist some American community of between 20,000 and 30,000 population, and the surrounding county, in securing as nearly as possible ideal conditions, for the development of its children, from babyhood to adolescence, into sturdy, happy, useful citizens.

The first step will be the selection by a committee of experts of the community in which the demonstration will be carried on over a period of five years. Geographical limitations are not imposed in the selection of the community, but the Council believes the following qualifications will insure that the results are of the greatest benefit to the entire country.

1. The town or city should be located in a county of between 50,000 and 60,000 population. The population should be fairly stable.

2. The age distribution of the population should be fairly near the average, especially as to the percentage of children and babies.

4. The city or town should have a normal percentage of its population engaged in manufacturing.

5. There should be a variety of industries in the city.

6. The surrounding area should be agricultural territory.

7. The town should be in a birth registration state, and should have fairly complete vital statistics.

8. The mortality of infants and children should not be strikingly abnormal. Health conditions should not be abnormally good or bad, and health machinery, including state laws, local ordinances and personnel, should be equal to those of a community of similar size.

The committee which will recommend the town to be chosen for the experiment consists of Dr. Richard A. Bolt of Baltimore, general director of the American Child Hygiene Association; Miss Ella Phillips Crandall of New York, formerly director of the National Organization for Public Health Nursing; Dr. Charles J. Hatfield of New York, director, National Tuberculosis Association; Owen R. Lovejoy of New York, general director, National Child Labor Committee; Miss Sally Lucas Jean of

New York, director, Child Health Organization; Dr. Haven Emerson, former health commissioner of New York, and Dr. Donald B. Armstrong, Framingham, Massachusetts.

The direction of this novel health experiment will be under Clarence King, who is widely known in the field of research and the administration of health and social work. He holds degrees from the University of Wisconsin and Columbia University.

Member societies of the National Health Council are: The American Child Hygiene Association, American Red Cross, Child Health Organization of America, National Child Labor Committee, National Organization for Public Health Nursing, and the National Tuberculosis Association.

New York Electrotherapeutic Society Organized.—At a meeting held at 30 West 44th street, on March 9, 1921, the New York Electrotherapeutic Society was organized, and the following officers elected: Dr. Victor C. Pedersen, President; Drs. Harold D. Corbusier, I. Seth Hirsch, Vice-Presidents; Dr. Herman C. Frauenthal, Treasurer; Dr. Richard Kovacs, Secretary; Drs. Frederic de Kraft, A. Bern Hirsh, William Benham Snow, Lucy Osborn Wight, Members of Executive Committee. Regular monthly meetings will be held on the first Wednesday of each month, to which all physicians interested in electrotherapeutics are welcome. The paper of the April meeting will be, "Practical Points in the Application of Diathermia," by Frederic de Kraft, M.D., followed by discussion.

BOSTON AND MASSACHUSETTS.

American Medical Association in Boston.—The Massachusetts Medical Society has invited the American Medical Association to hold its next meeting in Boston,—in June, 1921. The expense of this meeting, so far as the scientific program is concerned, is borne by the American Medical Association; but it is desirable for us to arrange for the comfort and entertainment of the members who are really our guests while in Boston. In order to provide proper hotel accommodations and entertainment for the visiting members and their families, a considerable sum of money is necessary It is expected that nearly 10,000 people will come to Boston in connection with this meeting, and it can readily be seen how great will be our expense.

In 1906, we set a very high standard as host to the American Medical Association, and it is hoped that we can duplicate our results, in spite of the necessary additional cost of entertainment.

A collection is being made from all members of the Massachusetts Medical Society, and the response from the districts outside of Suffolk and the help given by the medical profession in New England is very satisfactory. In addition, we expect considerable aid from the business houses in Boston.

In spite of this, a large deficit must be met, and the Committee on Finance is sending you this appeal in hopes that you will contribute at least five dollars to a cause which we consider most worthy. Should you feel that you can afford a larger contribution, it would be greatly appreciated by the various committees who are laboring, at present, under the handicap of insufficient funds.

Checks should be made out to Dr. Hugh Williams, Treasurer, and sent as promptly as possible to Dr. Lesley H. Spooner, 520 Commonwealth Avenue, Boston.

For the Committee on Finance,
Hugh Williams, *Chairman.*

The Boston Lying-In Hospital.—There were admitted to the Boston Lying-In Hospital during 1920, 1,123 patients. About one-fifth were free cases; the balance paid less than one-half of the cost of their care. These patients, in the main, represent a fine type of hard-working, self-respecting women, practically all of whom are married; 977 babies were born and cared for.

In the Out-Patient Department, 7,488 visits were made to pregnancy clinics by 2,799 patients. These patients were supervised in the various clinics by obstetricians and nurses. They also have the advantages of the home supervision of the district nurses and medical-social service nurses. Any abnormal condition, or need of material aid or advice is thus early recognized and the proper remedy provided. 1,225 patients were attended at confinement in their homes, involving about 12,600 visits by attending house officers and externes. 1,251 babies were born and cared for.

Eight house physicians were given six months' intensive obstetrical training; 210 medical students or graduates were given special training; 66 nurses, with special obstetrical training, were graduated.

During the last 48 years, 27,962 patients were treated in confinement in the Hospital; 27,133 babies were born or cared for in the Hospital; 52,283 patients were attended in their homes; 51,850 babies were born or cared for in homes; 877 nurses were granted diplomas; 283 house officers were granted diplomas; 5,063 medical students were given special training.

The American Proctologic Society.—The American Proctologic Society will hold its twenty-second annual meeting at Boston, Massachusetts, June 3, 4, and 6, 1921. The profession is cordially invited to attend the public sessions. The Society will have its meeting place at the Boston Public Library, and its headquarters at the Hotel Braemore. Clinics will be announced later. The Committee of Arrangements includes Dr. T. Chittenden Hill, Dr. William A. Rolfe and Dr. Ralph Jackson.

Lethargic Encephalitis in Boston and Massachusetts.—Thirty cases of lethargic encephalitis have been reported to the State Department of Health, during the period from March 1 to March 19, and are now under observation by the State's experts. The number of deaths is not yet known, but, as the mortality rate is from fifteen to forty per cent., it is feared that the number will be higher in March than at any other time since the disease appeared.

Of the new cases, ten are in Boston, two of which are outside patients brought to Boston hospitals for treatment. Two cases were reported from Everett, two from Springfield, and one each from Melrose, Douglas, Newton, Wakefield, Holyoke, Webster, Winchendon, Newburyport, Braintree, Quincy, Fall River, Cambridge, Newbury, Lowell and Adams.

Despite the increased number of cases of the disease, little is yet known of it by the health authorities. The Public Health Council in February decided that the disease was dangerous to the public health, and ordered that, beginning March 1, all cases should be reported to the State Department of Health. Dr. Bernard W. Carey, deputy commissioner of health and director of the division of communicable diseases, sent pamphlets to every doctor in the State, giving such information as has been compiled concerning the disease Prior to February 1, seventy-five cases were reported in Massachusetts, forty-two of which were discovered in January.

The cause of the disease is not known definitely, although several theories have been advanced. A study of the symptoms shows that the disease is accompanied by general irritability, nervousness, sleeplessness, headache, loss of appetite, and nausea in the early stages. As the case progresses, lethargy, mental depression, drowsiness and somnolence appear.

The localizing signs of the disease are double vision, drooping of the eyelids, facial paralysis, polyneuritic symptoms, blurred vision, vertigo, tremors, twitchings, muscular pains and weakness. The disease is more common among adults than children, and is not directly contagious.

Rejection of Maternity Benefit Bills.—As a result of reports made by the Committee on Public Health and Social Welfare, which have been investigating maternity benefit legislation, it has been decided that no action will be taken at present by the Legislature in this matter. The bill offered by Miss Edna Laurence Spencer was rejected unanimously. The bill recommended by the special commission appointed to investigate the subject was rejected, with dissension from Representatives Webster, Wright, Healey and Cooksey, of the Committee on Social Welfare, and Representatives Bartlett and Tyder of the Committee on Public Health. There is still before the committee a bill providing for an appropriation of thirty-five thousand dollars to be used in educating mothers and district nurses in maternity care.

Removal of Dr. Brough.—Seventeen prominent physicians, including Dr. Alfred Worcester, President of the Massachusetts Medical Society, visited Mayor Peters on March 21, to protest against the removal from office of Dr. David D. Brough, deputy in charge of the medical Division of the Health Department, by Dr. Woodward, Health Commissioner.

Week's Death Rate in Boston.—During the week ending April 2, 1921, the number of deaths reported was 228 against 209 last year, with a rate of 15.69 against 13.48 last year. There were 36 deaths under one year of age against 38 last year.

The number of cases of principal reportable diseases were: Diphtheria, 75; scarlet fever, 56; measles, 155; whooping cough, 28; typhoid fever, 2; tuberculosis, 43.

Included in the above, were the following cases of non-residents: Diphtheria, 6; scarlet fever, 1; tuberculosis, 9.

Total deaths from these diseases were: Diphtheria, 5; scarlet fever, 3; whooping cough, 1; typhoid fever, 1; tuberculosis, 14.

Included in the above, were the following cases of non-residents: Diphtheria, 2; scarlet fever, 2.

Smallpox Warning to the Medical Profession.—There have occurred recently, in Boston, a considerable number of exposures to infection by smallpox among persons who cannot now be traced by the Health Department, many of whom are ignorant of their exposure to smallpox and some of whom may apply to you for treatment. Inasmuch as early and prompt diagnosis of doubtful cases may be facilitated by a knowledge of the possibility of exposures to smallpox, this information is transmitted to you.

These exposures originated in the case of one John Handrahan, residing in the South End, and most of the exposures occurred in the South End and Roxbury, although not all of them. Mr. Handrahan states that he has not been out of Boston for some time, and it, therefore, must be presumed that he contracted the disease in this city, indicating the presence of an earlier focus of infection here.

The onset of Mr. Handrahan's case occurred on March 18, but the nature of the malady was not recognized until the 30th ultimo, when it was brought to the attention of the Health Department. No precautions were taken in the interval, the patient even attending church while in the eruptive stage. Secondary cases may, therefore, begin to develop about April 1st and continue to develop until the middle of April. From now on, therefore, there is a possibility that any person suffering from an acute malady not definitely diagnosed, may be suffering from smallpox. This should be borne in mind.

The experience of the Health Department shows that smallpox, in the preëruptive stage, is likely to be mistaken for influenza or, possibly, for rheumatism, with the result that nothing is done for the protection of others until the eruption has been out several days. During the eruptive stage, confusion is most likely to occur with chicken-pox and certain of the eruptions of syphilis.

Coöperation in the present situation is requested. The Health Department will be glad to assist in the way of making diagnosis in any doubtful case; but when doubt arises, isolation of the patient and vaccination of contacts should be put into effect at once, without waiting for the Health Department or for a positive diagnosis.

Correspondence.

PUBLIC HEALTH AND THE RURAL PRACTITIONER.

Deerfield, Mass., March 28, 1921.

Mr. Editor:—

After an interval of some ten years of living back in the country, I returned recently to the city to do some work in the out-patient departments of large metropolitan hospitals with which I had formerly had some connection. Aside from the general growth and expansion of these hospitals from increase of number of patients attending clinics and the extension of specialized practice, there were two outstanding facts which struck me with more or less significance: the more general recognition by the medical profession of the hospital as an educational force with which they must keep in contact by reason of the fact that a larger percentage of doctors in the metropolitan area had some form of connection with it, and the marked development in the nursing and social welfare agencies. This latter fact seemed to me to manifest some symptoms that were ominous to the future welfare of the medical profession. I recall the attitude of a supervising social service worker who had a diagnosis of a case which clashed with that of the doctor, therefore she felt she had such a superior knowledge of the case that his diagnosis, of course, was wrong. I soon found that there were others criticising such growing assumptions on the part of nurses and other workers.

One who has looked over the statistics of the attendance of the medical schools during the past 40 years, must have been impressed by the decreasing numbers entering the medical profession. We realize, of course, the encroachments of Christian Science, osteopathic and chiropractic practitioners, but do we realize the advance of the graduate nurse and the social service workers and where they are effectually eliminating the standing of the medical man? As there have been encroachments upon religious practices, theories and dogmas handed down from the past, so there have been, and must necessarily be, into the field and habits of the medical profession a like kind of invasion. Religious creeds have very poorly stood the strain of "modern" progress, and less obviously, perhaps, has past medical practice and usage stood the strain.

In medicine the advance of scientific procedure, the discovery of bacteria and antitoxins has spurred on specialization, but has put a great tax on general practice and is rapidly promoting the disappearance of the "old family doctor." The general practitioner, out away from the large hospitals, finds it difficult to orient himself to all that is new coming into his field, and there is a tendency to revert, in many things, back to what he was taught 10 or 20 years ago. Now the nurse and social welfare worker, belonging as they do to a newer profession, are apt to keep more in touch with the hospitals, shift around more, and knowing, too, the men just out and beginning practice, do not appreciate, always, the maturity of the older men and too often regard them as old fogies. This accounts for part of their assumptions

The feminine quality of wanting something new and a change, does not always stop to reason as to the soundness of what has previously been done and practiced. Women have their part in insisting upon progress and must be given credit for it. Their work, however, is supplemental to that of men. Woman must be, as she always has been, a coöperative worker with man. She can never supplant him.

Woman has come into the field very effectively in matters relating to public health promotion, district visiting and social welfare. She is a nurse by nature, and the backbone of the hospital, but how well she fits as a diagnostician, or into the rôle of general or special practitioner, may be open to question. The fact remains that she is advancing materially the field and opportunities of medical service. The city and large towns have had, for the most part, the benefit of these new professions. The doctor and medical man has been gradually sucked away from the rural districts and small towns by the lure of hospital attractions, clinical facilities and education, and because he appreciated the value of trained women workers in the field. The problem of medical service in the back country grows more and more serious. I wish to quote from a recent letter:

"Franklin County Farm Bureau,
"Greenfield, Mass., March 11, 1921.

"Dr. Paul W. Goldsbury,

Dear sir:—

"In thinking over the matter of health in our rural communities, I have become more and more impressed with the great loss which has come to them in the disappearance of the old country doctor. He practically no longer exists in this county. Formerly, he was a tower of strength in the community, being interested in everyone from birth to the grave, and was not only a counselor in health, but an adviser in education and community policies. The fact that many of the people of the country towns are many miles from a physician and that our town physicians dislike to go long distances in adverse weather conditions when most needed, operates to shut them away from medical service in many cases.

"The net result is that the average country community does not have as good medical services as it did 50 years ago, while other classes are receiving superior advantages. The examination of country boys during the draft period showed the result of this condition, a condition for which the country community is not to blame. As there seems to be very little chance that young doctors will settle in country districts, so long as there is a chance of practicing in the centres, there seems to be no hope for improved conditions from this source and we must look to some organization, or movement, to give the opportunity for such medical attendance as is needed in the country districts. This problem is one which has a great influence on the future development of our agriculture, and one in which Franklin County Extension Service for Agriculture and Home Making is much interested and willing to coöperate.

"Yours very truly,
"J. W. Putnam,
"County Agent of Extension Service of Mass. Agricultural College and of U. S. Dept. of Agriculture."

Various organizations are seeking to extend district nursing service and social welfare work into rural districts. That will be a mobilizing of such agencies over the hills and into the back regions. The question of distribution of health centres is being agitated so that distances to clinics for specialized treatment, as in the case of tubercular and venereal diseases, will not be so great and so costly. The writer believes that hospital and clinical educational facilities should be within 20 miles of every general practitioner, and that provisions should be made so that he can get to such, at least once a week. The writer also believes that such health centers and the best kind of coöperation from physicians cannot be brought into being by mere legislative enactment, organization and financial support. The program and survey which can be adapted to the city and large town fits almost not at all to the rural district and each district has such a distinctive topography and individuality that standardizing makes a ticklish or precarious foundaton and framework. Rural life in this part of the country is an unknown book, essentially, to the welfare worker and district nurse. They have not lived back there enough to know and sense elemental conditions, the temperament and prejudices of the people, history and character of the land, etc., etc. The present rural practitioner holds the key to the initial development of a public health program for this back region and he must be sought out and his influence brought to bear for any permanent plan of upbuilding. A real appreciation of what he was in the past and a faith in his capacity to help solve present and future problems must be fundamental to anything effective and permanent.

Sincerely,
Paul W. Goldsbury, M.D.

NOTE ON CHRONIC FUNCTIONAL DISORDERS.

1069 Boylston St, Boston, Mass.,
5 April, 1921

Mr. Editor:—

The following note is submitted to the attention of the profession, not as containing anything new or original, but merely by way of emphasizing certain practical points which deserve more attention from physicians than it is customary to give them.

Disease is fundamentally a condition of maladjustment of the individual to his environment. "Organic disease" is a condition of maladjustment in which tissue destruction has taken place. "Nervous, functional and mental diseases" are conditions of maladjustment without tissue destruction.

Symptoms arise from the attempt at readjustment or adaptation on the part of the individual. To say that symptoms are nervous or mental in origin is to say that the condition of maladjustment is not such as to be accompanied by tissue destruction. Properly speaking, all symptoms are nervous and mental, for they, in themselves, are evidence of nerve irritation, and they exist in the field of consciousness.

Chronic ill-health, with or without evidence of organic disease, is evidence of *failure* of readjustment or adaptation on the part of the patient. The failure of adaptation brings the patient to consult the physician, and the patient has a right to expect that the physician will be able and willing to point out why and how the attempt at adaptation has failed. Here is where we physicians have been woefully blind to our opportunities and our duties. And the patients realize it more keenly than the physician, when they are told that their condition is a functional disturbance, and they are sent on their way with a prescription for a tonic or a sedative.

Can we not realize more often that chronic functional disturbances are usually accompanied by depletion and waste of nervous energy through faulty hygienic habits? In order to help the patient make his readjustment or adaptation, we must ascertain the method by which the waste is taking place, and replace the faulty habits (physical and mental) by giving instruction how to build nervous energy through correct living.

W. G. Webber, M.D.

PSYCHOBIOLOGY AND BIOPRAXIS.

425 Harvard Avenue, Claremont, California,
25 March, 1921.

Mr. Editor:—

In re. the editorial in the Journal, March 10, 1921, on name for the application to real life of a psychology, I have the honor to suggest the word "biopraxis" (the conscious self-control of conduct of each person) as being more to the case than "psychobiology."

Respectfully,
Franklin Bache Stephenson, M.D., U.S.N.

SPANISH VACCINATION EDICT.

Boston, March 25, 1921

Mr. Editor:—

In view of the recent opposition in this state to compulsory vaccination, I am sending you the clipping attached hereto, to show how this matter was settled in Spain—by royal decree:

> "Un decreto reale ordina la vaccinazione per prevenire il vaiuolo, obbligatoriamente, per tutti i bambini."

Translated, it reads: "A royal decree orders compulsory vaccination for all infants, to prevent smallpox."

Would that some such decree could be issued in this state in favor of compulsory vaccination!

Yours very truly,
Gaetano Praino.

ETHER-DRINKING IN WESTFIELD.

Springfield, April 8, 1921.

Mr. Editor:—

In answer to your letter regarding the use of ether among the laity of Westfield, I would say that the habit seems to be confined to the Polish people. For some time these people have added ether to their beer, which, as you know, they use freely. It seems to have been given to children, not to allay the pangs of hunger, but merely to keep them quiet—a sort of soothing syrup, so to speak. The ether is ingested, never inhaled. Certain grocery stores have sold the commodity, openly and freely, and are continuing to do so. I understand that the Westfield Board of Health has the matter under advisement.

Very truly yours'
Allen G. Rice.

NOTICE.

Beth Israel Hospital.—There will be a clinical meeting in the auditorium of the Beth Israel Hospital, on Wednesday evening, April 13, at 8.15 p.m.

PROGRAM.

"Newer Developments in the Study of Pyelitis"
Dr. E. Grenville Crabtree

Discussion : Dr. Fritz Irving, Dr. Richard M. Smith, Dr. A. L. Chute.

Physicians are cordially invited. The telephone is Roxbury 5940 and visitors may be on call.

Refreshments will be served.

Albert Ehrenfried, M.D., *Chairman,*
Committee on Clinical Meetings.

RECENT DEATHS.

Julius Maltby Dutton died at his home in Westfield, of encephalitis lethargica, January 29, 1921, aged 43 years. He was a graduate of Dartmouth College in 1900, and of Dartmouth Medical School in 1903. He was a member of the American Medical Association and the Massachusetts Medical Society.

Lawrence Chesley Chisholm, a Fellow of the Massachusetts Medical Society, died in Boston, April 2, 1921, aged 29 years. He was a graduate of Tufts College Medical School in the class of 1917, and settled in Salem, removing to Allston.

Albert Fred Peck, M.D., died at his home in Spencer, March 31, 1921, aged 58 years, nine months, 20 days. The cause of death was heart disease, with which he had been ill for three weeks. Dr. Peck was born in Montgomery, Vt., in 1863, attended the schools of that town and took an M.D. from the University of Vermont in 1887. He settled in Woburn, Massachusetts in 1895, moving to Worcester in 1899, and to Spencer in 1905. He was a Fellow of the Massachusetts Medical Society, a Mason, and an Odd Fellow. His widow, a daughter and a son survive him, the son being Dr. Edward B. Peck of Perth Amboy, New Jersey. Another son, Albert, died in France during the World War.

Dr. Joseph Ransohoff, professor of surgery at the University of Cincinnati, died, on March 10, at Cincinnati on May 26, 1853. He received his medical degree from the Medical College of Ohio in 1874, and the Royal College of Surgeons, London, in 1877. Since that time, he has served in the Departments of Anatomy and Surgery at the University of Cincinnati. Dr. Ransohoff was a fellow of a number of surgical societies and had contributed extensively to literature on surgical subjects.

Dr. Andrew Jackson Stevens died at his home in Malden, February 23, 1921, of pneumonia, at the age of 74. He was born in Warren, N. H., April 24, 1846, was educated in the schools of Haverhill and at Harvard Medical School where he received his M.D. in 1869, and settled in Lawrence, joining the Massachusetts Medical Society in that year. He practised in Holliston from 1875 to 1890, when he moved to Malden to spend the remainder of his life. There he helped to found the Malden Hospital and the Malden Milk Commission. He was a member of the American Medical Association, a Mason and an Odd Fellow. Dr. Stevens was twice married, first to Jennie Stone Powers of Lawrence, and second, to Catherine C. Frost of Malden, who survives him with three sons.

Dr. Oren Andrews died at his home in Gardner, Mass., April 2, 1921, aged 56 years. He was born in New Salem, N. H., was educated at the New Salem Academy and at the College of Physicians and Surgeons, Baltimore, in 1895. He settled in Orange, Mass., moving to Gardner in 1896 and joining the Massachusetts Medical Society in 1915. The cause of death was apoplexy. He was unmarried.